Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

SUSTAINABLE DEVELOPMENT STRATEGY 2007-2009

Making Progress Together

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Message from the Minister of Agriculture and Agri-Food and Minister for the Canadian Wheat Board

As Minister of Agriculture and Agri-Food and Minister for the Canadian Wheat Board, I am pleased to present the Department's fourth Sustainable Development Strategy (SDS). This report is an important step towards renewing our commitment to sustainable development.

The focus of AAFC's fourth SDS will be to enhance the integration of the three pillars of sustainable development – economic, environmental, and social. Through various initiatives, AAFC will strive to strengthen linkages between the three pillars to ensure a seamless approach to sustainable development. Our fourth SDS will highlight the ongoing implementation of the Agricultural Policy Framework and illustrate how the Department integrates sustainable development into decision-making. The SDS will also help lay the groundwork for the next generation of agricultural policies and programs.

Agriculture and Agri-Food Canada's mandate recognizes the importance of sustainable agriculture, whose goal is not only to help the industry prosper economically but also to value and protect the environment and to safeguard the health and well-being of Canadians.

I am very optimistic about the future of our industry - its ability to evolve and capitalize on new technologies and capture emerging markets. We will continue to work cooperatively with industry and other stakeholders to accelerate the adoption of sound environmental practices that produce safer, healthier food and innovative non-food products for consumers.

Chuck Strahl
Minister of Agriculture and Agri-Food Canada

2007-03955/

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1. Introduction

Sustainable development integrates environmental, economic, and social considerations in ways that allow today's needs to be met without compromising the ability of future generations to meet their own needs. In the context of Canadian agriculture and agri-food production, sustainable development means producing, processing, and distributing agricultural products in a manner that supports or enhances the high quality of life we enjoy in Canada, both today and into the future.

Sustainable Agriculture and Agri-Food Production

In environmental terms, sustainable agriculture and agri-food production is built on the sustainable use of natural resources, such as land, air, water, and genetic resources; the protection of soil, water, and air quality; and the conservation of the rich biodiversity found on agricultural lands and in the wide array of agricultural crops and animals. Economic sustainability takes the shape of profitable farms and a secure living for farming families, prosperous agri-food businesses, and a strong and reliable contribution to Canada's economy. Social sustainability addresses a number of issues, including youth involvement in agriculture, collective organization, diversity of employment, quality of life, and education and training. It also recognizes the value of rural communities in Canada's social fabric.

The very nature of farming, with its reliance on natural resources such as land and water, calls for sustainable practices. Since the dust bowl years of the 1930s, when the Prairie Farm Rehabilitation Administration set out to help Prairie farmers conserve their farmland soil, safeguard water supplies, and cope through the Depression, the Government of Canada has promoted the environmental, economic, and social sustainability of Canadian agriculture. As the concept of sustainable development has evolved over the past three decades, Agriculture and Agri-Food Canada (AAFC) has built on this early experience and moved into a position of world leadership in the development and implementation of beneficial farm management practices, such as conservation tillage. With the added focus on sustainable development created by the requirement for federal departments to formulate and implement a sustainable development strategy (SDS), every three years, AAFC has made further progress in translating this concept into practice and integrating all three pillars of sustainable development into its operations and work.

Departmental Profile

AAFC's Mandate

Agriculture and Agri-Food Canada is responsible for all federal matters pertaining to agriculture and products derived from agriculture, which includes supporting agricultural production, processing, and trade. The Department provides information, carries out research and develops new technologies, and implements policies and programs to achieve three key goals: Security of the Food System, Health of the Environment, and Innovation for Growth. The Department also coordinates federal efforts related to rural and co-operative development, and works to enhance the quality of rural life in Canada.

Agricultural Policy Framework

A key factor in improving AAFC's understanding and practice of sustainable development in recent years has been the Agricultural Policy Framework (APF). The APF was announced in 2002 as a vehicle for moving Canadian agriculture and agri-food production beyond crisis management to a more secure, productive, and competitive state. It established principles for taking sustainable action in the areas of Environment, Food Safety and Food Quality, Renewal, Science and Innovation, and Business Risk Management, and promotes new developments in Markets and International Trade. Based on a comprehensive and integrated approach toward long-term growth and prosperity, the APF became the core of AAFC's third sustainable development strategy.

AAFC's Management Structure

The inception of the APF created the need for a more progressive and responsive management framework for the Department. To meet this need, AAFC has undergone a significant transformation over the past three years. Through realignment of departmental resources and structures, horizontal teams were created, each responsible for one of the elements of the APF, as listed above. This approach supports multi-disciplinary contributions to broad strategic outcomes and encourages cooperation and teamwork. Several enabling teams support the work of the horizontal teams.

AAFC's New Vision for Sustainable Agriculture

In the desire to see the agriculture and agri-food sector become sustainable in all aspects of its endeavours and to position Canada favourably on the world stage in terms of sustainable development, AAFC has developed a new vision for sustainable agriculture (see below).

Changes from Previous Sustainable Development Strategies

Agriculture and Agri-Food Canada's first sustainable development strategy had a strong emphasis on environmental sustainability. Its second strategy maintained the focus on environmental initiatives but sought to make some of the links to the economic and social sustainability of the sector. The third strategy

AAFC's Vision for Sustainable Agriculture

The three pillars of Sustainable Development have been an integral part of Canadian agri-food policy since the development of the Agricultural Policy Framework (APF) in 2003. The Department is looking toward the development of a new generation of Canadian agri-food policy for 2008. This new generation of policy will continue to integrate economic objectives for the sector with social and environmental concerns.

Visions for this policy framework at the time of tabling SDS IV include:

- **Canada's agriculture and agri-food industries will exercise new patterns of thinking and practice to keep pace with, and operate competitively within, evolving domestic and global marketplaces.**
- **Individuals and businesses will acquire the skills, and employ the technologies and management structures, that enable them to seize new opportunities.**
- **Businesses will invest in research, develop and modify innovative processes and products to influence and meet market demands, and forge new partnerships, both within and outside the sector, to create new synergies and exploit new food and non-food product lines.**
- **Agriculture and Agri-Food Canada will support the sector in realizing this vision through the development of appropriate policies and programs, expansion and provision of knowledge and information, and investment in research and technology, while recognizing Canada's regional differences and promoting the sustainability of Canada's rural communities.**
- **Canada will be known the world over as a reliable source of safe, high-quality food and superior non-traditional agricultural products.**
- **Canada will also be recognized for its innovative practices, products, and processes, its leadership in natural resource conservation and environmental protection, and its strong contribution to the social well-being of Canadians and global partners.**

recognized all three pillars of sustainable development, noting various overlaps between them.

Through this strategy AAFC intends to take the integration of the three pillars of sustainable development even further. More attention and greater effort will be directed at policies, programs, and activities that do a better job of integrating the Department's work and making stronger cross-linkages among economic, environmental, and social themes. Chapter 4 is devoted to this new direction, describing several departmental initiatives that contribute to better integration of the three sustainable development pillars. This evolution in thinking and approach over the years is an apt picture of sustainable development itself – slow, iterative, and subject to continuous improvement as we learn more and gain more experience.

The Role and Fit of this Strategy

Just as the APF became the core of AAFC's third sustainable development strategy, so it continues as the core of this strategy until it is replaced by the next generation of agriculture policy. Integration of the APF and the departmental SDS ensures that sustainable development is a department-wide goal, reduces duplication of effort, and streamlines the requirements for accountability and reporting. New strategic developments intended to expedite work under the APF, such as the Science and Innovation Strategy announced in 2006, will also further various sustainable development objectives outlined in this SDS.

Supporting Federal Priorities

In preparation for the fourth round of sustainable development strategies, departments worked together to improve coordination and build coherence among the strategies through a set of common federal sustainable development goals. These federal goals comprise three environmental quality goals – clean water, clean air, an reduced greenhouse gas emissions. They also include three sustainable development management goals – sustainable communities, sustainable development and use of natural resources, and governance for sustainable development. Departments are also taking a coordinated approach to greening government operations. Agriculture and Agri-Food Canada supports these priorities and contributes to the Government of Canada's long-term goals for sustainable development in the following ways.

Clean Water

Long-term Federal Goal: To ensure clean and secure water for people and for marine and freshwater ecosystems

Agriculture depends on the availability of water of appropriate quality to grow crops, water livestock, clean farm building and machinery, and supply domestic needs. Water is also needed for processing food and cleaning equipment in the food processing industry. Agriculture has the potential to contribute to declining water quality, mainly through the movement of sediments, nutrients (especially nitrogen and phosphorus), pesticides, bacteria, and salts off agricultural land. It also has the potential to enhance water quality through such means as the protection and restoration of sensitive lands and improved management practices. Agriculture and Agri-Food Canada has participated in the development of many beneficial farm management practices that

limit the entry of agriculturally derived contaminants into groundwater and surface waters.

To better address water issues, AAFC is formulating a new strategic plan for water consistent with the federal government's promotion of Integrated Water Resources Management. The Department also supports the development and use of tools to help track Canadian progress in protecting water resources, such as the new Canadian Water Sustainability Index and the water quality indicators of the National Agri-Environmental Health Analysis and Reporting Program. The federal government plays a key role in providing science-based information for good decision making, and AAFC supports this role related to water management through delivery of the National Land and Water Information Service.

Clean Air

Long-term Federal Goal: To ensure clean air for people to breath and for ecosystems to function well

Agriculture and Agri-Food Canada contributes to the federal action for clean air through research and promotion of beneficial management practices that, for example, reduce agricultural ammonia emissions, control nuisance odours associated with livestock production, and limit the entry into the atmosphere of particulate matter deriving from agricultural activities such as ploughing. Two new agri-environmental indicators for ammonia and particulate matter are being developed under the National Agri-Environmental Health Analysis and Reporting Program to help measure and assess the sector's efforts to contribute to clean air for Canada.

Reduced Greenhouse Gas Emissions

Long-term Federal Goal: To reduce greenhouse gas emissions

In support of federal goals to reduce greenhouse gas emissions, AAFC has a keen interest in developing new farming practices that reduce agricultural emissions and enhance carbon sequestration in biomass and soils. An estimated 7.2 percent of Canada's greenhouse gas emissions arises from agricultural production (excluding fossil fuel use). Canada's total greenhouse gas emissions in 2003 were about 24 percent above 1990 levels, whereas net agricultural emissions dropped by 4.4 percent between 1981 and 2001. The Department has also reduced its own greenhouse gas emissions through improvements in building and fleet operations. At the same time, it is exploring promising agricultural adaptations

The Canadian Biomass Innovation Network

The Canadian Biomass Innovation Network was formed to facilitate collaborative research and development among governments, industry, and academia in the area of bio-innovation (bioenergy, biofuels, and industrial biotechnology). Advances in this area are intended to reduce the consumption of fossil fuel energy, directly or indirectly reduce greenhouse gas emissions, and seed the development of Canada's bio-based economy.

Agriculture and Agri-Food Canada participates in the network through research on the use of agricultural crops and crop residues to generate biofuels (such as ethanol and biodiesel) and bioproducts. It is also developing a geographic information system (GIS) tool that models biomass quantity and quality, and the associated energy, water, and transportation infrastructure available for exploitation of the biomass resource. This tool will be linked to remote sensing technology to provide predictive capacity for regional biomass availability.

to climate change. The Department also undertakes and promotes research into bioenergy, biofuels, and industrial biotechnology through the Canadian Biomass Innovation Network (*see* Box), and supports international work on climate change through representation on the Intergovernmental Panel on Climate Change.

Sustainable Communities

Long-term Federal Goal: To ensure that communities enjoy a prosperous economy, a vibrant and equitable society, and a healthy environment for current and future generations

Agriculture and Agri-Food Canada's Rural Secretariat is the focal point for federal efforts to build strong, dynamic rural and remote communities in partnership with the people living there. The Secretariat provides leadership and coordination of federal rural work through the Canadian Rural Partnership, described further in Chapter 4. Rural stakeholders can engage the federal government and make their views known through the Rural Dialogue and can obtain information on services available to them through the Canadian Rural Information Service, both programs administered by the Rural Secretariat.

Sustainable Development and Use of Our Natural Resources

Long-term Federal Goal: To ensure sustainable development and use of natural resources

Agriculture and Agri Food Canada conducts research aimed at developing knowledge and technologies to minimize the impact of agricultural production on natural resources (soil, air, water, and biodiversity) while maintaining the overall sustainability of the sector. It is committed to protecting species at risk and conserving wildlife habitat on the land it operates. An agri-environmental indicator has been developed to assess wildlife habitat capacity on agricultural lands, and two other indicators are under development to enable assessment of invasive alien species and soil biodiversity on agricultural land. Work is in progress to research and promote beneficial practices for the management of natural and semi-natural zones within farmland, including woodlots, riparian areas, and native pastures. The Department also promotes ecologically sound land use practices through the Greencover Canada program, which encourages the conversion of sensitive farmlands to permanent cover, as well as the Community Pastures program.

Another initiative under way at AAFC is the recognition of agri-environmental benefits and the use of agri-environment valuation to assign economic value to biodiversity and natural capital on agricultural land. In the role of information provider for the conservation of agricultural land and natural resources, AAFC participates in the Canadian Biodiversity Information Network and delivers the National Land and Water Information Service and the National Agri-Environmental Health Analysis and Reporting Program.

Governance for Sustainable Development

Long-term Federal Goal: To strengthen federal governance and decision making to support sustainable development

Agriculture and Agri-Food Canada continues to carry out its mandate under the Agricultural Policy Framework (APF), and work to develop the next generation of agriculture policy has begun. The Department contributes to sustainable decision making through implementation of the requirement for Strategic Environmental Assessment under the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*, as well as federal legislation such as the *Canadian Environmental Assessment Act*. The application of sustainable development test questions to proposed departmental policies and programs helps to determine their potential contribution toward sustainable development, and AAFC reports regularly on its sustainable

development interests through the annual Departmental Performance Report and Report on Plans and Priorities.

Through their sustainable development strategies, federal departments also seek to apply sustainable development principles in their operations. Canada's Office of Greening Government Operations outlined three government-wide priorities for greening operations – building energy, vehicles (green fleet), and green procurement – in the guidance document *Greening Government Operations: Guidance for Organizations Developing Sustainable Development Strategies (2007–2009)*. Agriculture and Agri-Food Canada addresses these priorities and outlines a number of department-wide activities, from reducing greenhouse gas emissions and waste to conserving natural resources and limiting pollution, in Chapter 5.

Working Horizontally

Federal departments can make a significant contribution individually to the Government of Canada's efforts to promote sustainable development. They can also collaborate with each other to create a greater synergy in achieving sustainable development goals and outcomes. To this end, AAFC is working horizontally within the intergovernmental community to contribute to several federal priority areas for sustainable development.

For example, the Department:

- works collaboratively with the other federal natural resource departments – Environment Canada, Fisheries and Oceans Canada, Health Canada, and Natural Resources Canada—and delivers key components of the Agricultural Policy Framework with other departments, such as with Health Canada on pesticide initiatives and with Environment Canada in the development of agri-environmental standards/benchmarks;

- advances the Canadian Biodiversity Strategy and implements the *Species at Risk Act* as they pertain to lands operated by the Department;
- collaborates with other departments on federal actions to address climate change and contributes to energy and greenhouse gas research through the federal Program on Energy Research and Development, administered by Natural Resources Canada;
- through the Rural Development Network, established by the Rural Secretariat, brings together federal policy and research workers from about 20 federal departments to promote greater co-operation across the government for work toward rural sustainability;
- participates in a number of interdepartmental working groups, such as the Interdepartmental Committee on Co-operatives and the federal–provincial–territorial working groups on ecological goods and services;
- collaborates with Environment Canada, Fisheries and Oceans Canada, and other federal and provincial departments in the Great Lake Action Plan and the Plan d'Action Saint-Laurent;

- participates in the Group on Earth Observation Systems of Systems with the Canadian Space Agency and other federal departments;
- co-operates with the National Sciences and Engineering Research Council and Canada in their Research Partnership Agreements program;
- is a member of Federal Partners for Technology Transfer;
- contributes to an interdepartmental network and international science and technology, led by the Department of Foreign Affairs and International Trade.

Supporting Canada's International Commitments

Canada was one of 178 nations to endorse *Agenda 21*, the plan of action toward sustainable development that came out of the United Nations Conference on Environment and Development in Rio de Janeiro in 1992. Since then, Canada has been active in contributing to the development of the international sustainable development agenda, including the Millennium Development Goals and the Johannesburg Plan of Implementation (formulated at the 2002 World Summit on Sustainable Development). Agriculture and Agri-Food Canada plays a key role in helping Canada meet its commitments under these agreements related to sustainable agriculture and rural development, both domestically and through development work abroad.

Agriculture and Agri-Food Canada undertakes work:

- to protect biodiversity on agricultural land, contributing to Canada's commitments under the United Nations Convention on Biological Diversity;
- to reduce agricultural greenhouse gas emissions and to sequester carbon in agricultural soils, furthering Canada's work under the United Nations Framework Convention on Climate Change;

- to cope with the agricultural effects of drought, underpinning Canada's contribution under the United Nations Convention to Combat Desertification;
- to maintain Canada's role in the United Nations Food and Agriculture Organization (FAO) Partnership on Sustainable Agriculture and Rural Development, and is also continuing its relationship with FAO and the Commission on Genetic Resources for Food and Agriculture. Activities include conservation and sustainable use of genetic resources for plants and animals;
- to support federal efforts to meet the requirements of the Johannesburg Plan of Implementation and other international sustainable development agreements;
- in consultation with the Department of Foreign Affairs and International Trade, to formulate Canada's position for meetings of the UN Commission on Sustainable Development and contribute to Government of Canada reports on progress toward international goals for sustainable development.

In addition to these measures of support for Canada's international commitments, AAFC represents Canada's agricultural interests at international fora, such as World Trade Organization (WTO), Asia–Pacific Economic Cooperation (APEC), and North American Free Trade Agreement (NAFTA) negotiations, and contributes to preparations for Canadian participation in meetings of the UN Commission on Sustainable Development and other international fora for sustainable development. The Department consults on, and manages, international agricultural assistance projects through the Canadian International Development Agency and other bodies; undertakes collaborative research with scientists in other countries; and shares experience, expertise, and technologies with partner countries.

Reading this Report

Chapter 2 of this report provides a scan of the issues faced by the agriculture and agri-food sector in Canada today, creating the context in which related sustainable development takes place.

Chapter 3 describes the progress that AAFC is making on its journey toward sustainable development in terms of the major outcomes the Department has set out to achieve. It includes a section on the lessons that AAFC has learned along the way, including experience in developing and implementing three previous sustainable development strategies.

Chapter 4 presents several initiatives that AAFC is undertaking to enhance the integration of its work across all three pillars of sustainable development – economic, environmental, and social.

Chapter 5 underscores AAFC's commitment and action to reduce its ecological footprint by greening its own operations.

Chapter 6 presents a visual summary of the logic models introduced for the five APF elements, along with international (markets and international trade), in SDS III. It also presents a logic model for the integration initiatives, outlining the Department's commitments until 2009. Initiatives included in the logic model are described in Chapter 4.

Following the conclusion in Chapter 7, Annex A describes various aspects of the development of this strategy. Two appendices chart progress against the specific deliverables identified in SDS III for the Department's work (Annex B) and operations (Annex C). Annex D details the consultations that took place to support the development of this sustainable development strategy.

2. Issue Scan

The agriculture and agri-food sector, which comprises primary agriculture, food processing and value-added production, distribution, and retail, is a vital part of the Canadian economy. It accounts for 8 percent of the GDP and generates $130 billion in sales, including $30.9 billion in agriculture and food (including seafood) exports, contributing almost $5.8 billion to Canada's overall trade. The sector employs one in eight Canadians and contributes to the economic base of many rural communities in Canada. A number of issues play a significant role in the state of the industry today and will continue to shape the industry well into the future.

Issue: Average farm income in Canada is steadily declining and remains low today despite record-high federal program payments in recent years.

The average farm income in Canada has been steadily declining since the mid-1970s (*see* Figure 2.1), although this trend masks the more positive performance of farms in the higher sales class. The agriculture sector has been subject to an unusual combination of short-term factors in recent years that have placed severe pressure on the industry and exacerbated the downward trend in average income. Despite record high federal program payments and special assistance government payments aimed at alleviating this pressure ($4.8 billion in 2003, $4.9 billion in 2004, and $5.0 billion in 2005), aggregate farm income has remained low. Realized net income declined from $3.7 billion in 2001 to a record low level of $327 million in 2003. After rebounding in 2004, it dropped again in 2005 and 2006.

Government payments have helped farmers in the short term but may delay sectoral adjustment to long-term market forces and channel limited funds away from other important strategic objectives, such as scientific research and market development.

Issue: Many Canadian producers have faced extraordinary pressures in recent years from disease and extreme natural events.

Risk of Disease

Part of the decline in farm income in recent years can be attributed to the emergence of animal diseases. A number of cases of BSE in Canada since 2003 and the outbreak of avian influenza in British Columbia in February 2004, led to the closures of many national borders (e.g., US, Japan, Korea) to Canadian cattle, beef products, and poultry products. Smaller sectors, such as sheep, goats, and bison, were also adversely affected.

Plant diseases can also be devastating. For example, the Plum Pox Virus, first discovered in Ontario and Nova Scotia in 2000, infects stone-fruit trees (peaches, nectarines, plums, apricots), sharply diminishing yields. Eradication programs may take many years and may initially reduce production and income, as well as pose a potential risk to the environment and human health through the use of chemicals to control disease outbreaks.

Natural Events

Droughts, floods, heavy storms, wild fires, insect outbreaks, invasions of non-native species, and other natural events can drastically reduce farm income through crop failure, and livestock and property losses. For example, the 2001 and 2002 droughts in the Prairies caused a 40-percent drop in the production of grains, oilseeds, and special crops (from 52.9 million tonnes in 2000 to 31.8 million tonnes in 2002). As another example, annual production losses related to alien invasive species are estimated at $4.2 billion.

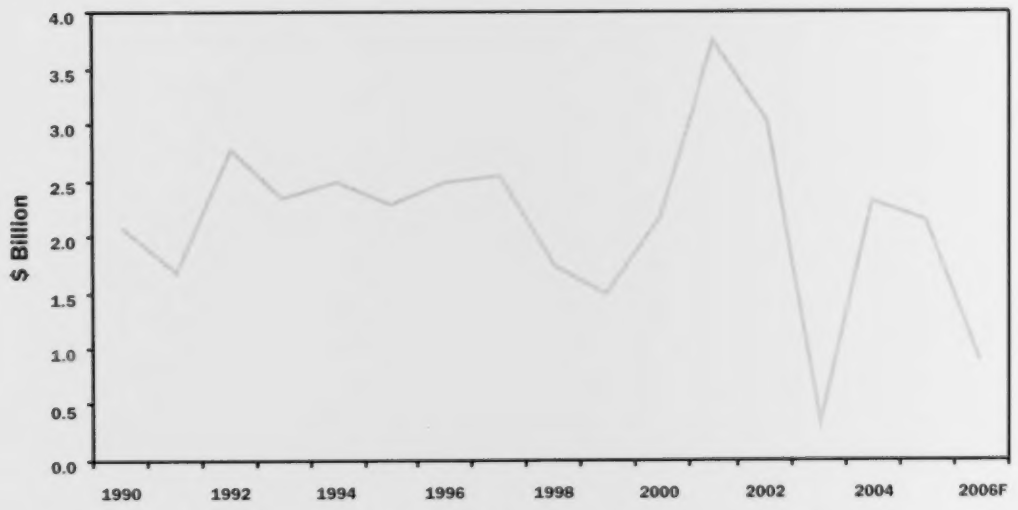
Advances in science and technology now make it possible to predict the occurrence, location, and severity of extreme natural events with greater accuracy than in the past, enhancing the ability to plan ahead and take both preventive and mitigative action. Extreme natural events can exert heavy pressure on government programs for farm income stabilization. They can also slow the development of new value-added products and create uncertainty among potential investors.

Issue: Long-term economic trends, both at home and abroad, are putting pressure on the current business structure in traditional areas of agriculture.

Export Competition

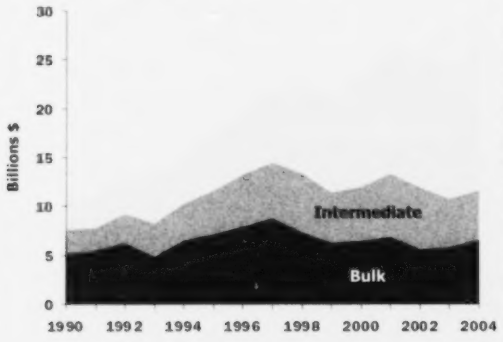
Canada's production of agricultural goods exceeds its domestic consumption, making access to export markets critical to the functioning of the sector. Canada's agriculture and agri-food export sales have more than doubled since 1990, with particularly strong growth for consumer-oriented (value-added) commodities (*see* Figure 2.2). However, the global market offers growing competition, often from emerging countries, such as Brazil and Argentina, that capitalize on their lower production costs (*see* Figure 2.3).

Figure 2.1: **Realized Net Income, 1999 to 2005**



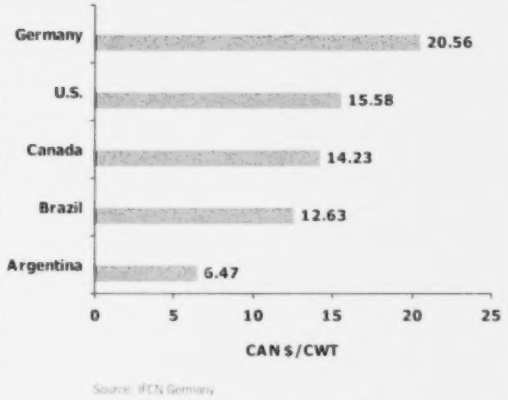
Source: Historical data, Statistics Canada, Catalogue No. 21-010-XIE, Agriculture Economic Statistics, May 2006.
Forecast figure for 2006, Agriculture and Agri-Food Canada, January 2006.

Figure 2.2: **Agriculture and agri-food export sales (1990-2004)**



Source: Statistics Canada and AAFC calculations

Figure 2.3: **Oilseeds costs of production in Brazil, Argentina, Canada, the U.S. and Germany (2001) (Rapeseed equivalents)**



Source: IFCN Germany

Figure 2.4: **Index of agricultural production, world (1999-2001=100)**

Source: FAO

Figure 2.5: **Hard red winter wheat and slaughter cattle price indices**

Competitive advantage for the Canadian sector lies in offering new and superior products, such as those that are produced using environmentally responsible methods and that meet high standards for safety and quality.

International Trade Barriers

Trade barriers impede Canada's agriculture and agri-food sector's ability to take full advantage of market opportunities. Furthermore, other countries may operate under protectionist trade policies, offering trade-distorting domestic support and export subsidies, which place the Canadian industry at a competitive disadvantage. Canada is working to achieve a more level international playing field through strong representation in World Trade Organization negotiations on agriculture and through participation in the negotiation of new regional and bilateral trade agreements.

Commodity Prices

Since the early 1960s the global food production index has risen more than 2.5-fold (*see* Figure 2.4) with continuous improvements in efficiency, resulting in a long-term decline in real commodity prices (*see* Figure 2.5 for an example). In particular, grain and oilseed prices have declined over recent years due to large crops in competing countries and the rapidly rising Canadian dollar.

Farm Input Costs

Farm input costs have risen substantially in recent years, placing additional pressure on farm income. World petroleum prices have spiked in response to geo-political risk and higher demand, resulting in much higher prices for farm fuel and fertilizer. Between 2002 and 2005, heating and machinery fuel costs climbed 41 percent, while fertilizer costs rose by 15 percent.

Issue: The focus of the agricultural and agri-food industry is shifting.

In the face of market competition and declining prices for many bulk commodities, primary agriculture is declining in importance in the larger agri-food value chain, and value-added production is becoming a greater focus. In the early 1990s, bulk commodities accounted for close to one-half of exports, whereas today they make up less than one-quarter.

Consumer Demand

Evolving consumer preferences exert a strong influence on markets, creating a demand for innovative products that meet certain expectations. For example, the market for organically grown produce is growing, as is the market for functional foods and nutraceuticals (foods and food products that offer more than just nutritional benefits, such as essential fatty acid, antioxidant, vitamin, and mineral products derived from plant sources). Product preferences and the resulting market demands can shift quickly, often as a result of information that consumers receive from the popular media. The capacity of the Canadian industry to respond to these shifts, and indeed to precipitate them by offering attractive new products, has a direct effect on its resilience and competitiveness in the face of constant change.

Non-Food Products

The potential for the agriculture and agri-food sector to produce non-food products is largely untapped. For example, crop delivery of pharmaceuticals is currently under research and development. Rising oil prices, decreasing cost of biomass, and advances in process technology, especially biotechnology, that allow sustainable mining of biomass as an industrial feedstock are driving the development of new industries in Canada to generate bioenergy and bioproducts (commercial or industrial products composed, in whole or in part, of biological or renewable agricultural, marine, or forestry materials). The agricultural sector will be a major contributor of the biomass needed to fuel this emerging industry and a key player in carrying out the Government of Canada's new biofuel strategy to achieve 5 percent renewable fuel in gasoline and diesel by 2010. Governments and industry will cooperate in developing, refining, and transferring the technologies needed to convert raw biomass into useful products. These developments will open up new market opportunities, especially for the grains and oilseeds sector, and forge links to other sectors of the economy, notably the chemical, energy, and pharmaceutical industries.

Emerging Markets

A liberalized trade environment can be expected to open up new value-added markets for Canada. Emerging countries, such as China and India, have expanding middle classes with growing disposable incomes that will be directed toward a wider range of products that reflect newly attained higher economic status. Canadian producers can capitalize on opportunities to meet the resulting new market demands.

Issue: Agriculture and agri-food production is both affected by the environment and capable of affecting the environment. Resource stewardship and environmental protection continue as key factors in achieving economic sustainability.

Landbase

Canada is the second largest country in the world, with a land area of almost 1 billion hectares. Less than 7 percent of this area, about 68 million hectares, is used for agricultural purposes. About 61 percent of agricultural land is under cultivation, 30 percent in pasture, and the rest

devoted to other uses. The 2001 agricultural census counted 246,923 farms, down 10 percent from 1996. During the same five-year period, crop land expanded by 4.2 percent (largely as a result of reduced summerfallow) and livestock numbers rose dramatically (e.g., from 11.6 million to 16 million for cattle and calves and from 10 million to 14 million for hogs). These numbers indicate that the sector is expanding, and that farms are getting bigger and production more intensive than in the past. Future increases in primary production must come mainly from further shifts in land use and greater productivity, not from expansion of the land base.

Soil

Healthy soils function to provide a medium for plant growth, regulate and direct water flow through the environment, and serve as an environmental buffer. Farming may reduce the effectiveness of these functions by altering the soil's balance of water, organic matter, and nutrients and by facilitating erosion. However, agricultural soil quality can be maintained or improved through the adoption of various farming practices, such as regular additions of organic material, maintenance of soil cover, conservation tillage, crop rotations, and certain cropping patterns.

Agricultural soil health in Canada has improved considerably over the past 25 years, and most agricultural soils today exhibit an acceptable level of health. However, poor innate soil quality, topography, climatic conditions, intensive agriculture, and other factors have led to soil degradation in some areas. Degraded soils are less able to retain nutrients and pesticides and may release them into waterways or the atmosphere. They are also less effective in the roles of gas exchange and maintaining air quality. These effects underline the importance of continuing to promote beneficial management practices for soil conservation.

Water

Agriculture faces issues related to both water quantity and water quality. Using water in ways that meet economic goals while conserving water resources and limiting agricultural contributions of potential water pollutants is a major aim of sustainable agriculture.

Water Quantity

As agriculture becomes more intensive and specialized, it can place greater demands on the water supply. For example, irrigation is needed for crop production in semi-arid regions of Canada and also at times in more humid regions. Concentrated livestock production requires greater water volumes to water livestock and clean facilities and equipment. The water demands of other users are also growing in some areas, creating the potential for conflict and shortages.

Agricultural production is potentially constrained by water supply almost everywhere in Canada, but especially in the Prairies and British Columbia's interior. Under current allocation conditions, the agricultural demand for water from surface and groundwater sources cannot be met in some parts of Canada. Even in places where the annual water supply is sufficient to meet demands, seasonal shortages may occur during the growing season. Climate change is expected to exacerbate the problem of water shortages in some areas, while increasing the water supply in others.

Water Quality

Agriculture depends on the availability of good quality water for many uses. Poor quality water

has the potential to impair the health of farm families, rural communities, crops, and livestock, and to lower agricultural productivity.

With increased agricultural productivity has come greater use of chemicals and a mix of farming practices that could pose a risk to water quality. Agriculture affects water quality mainly through the movement of sediments, crop nutrients, pesticides, and pathogens off farmland and into water by surface runoff, leaching into groundwater or tile drains, or release into the atmosphere. Soil conditions, landscape, vegetation, and climate influence this movement. Agricultural contaminants that enter underlying or adjacent water pose a risk to aquatic organisms and their habitat, and also to humans who use these waters for drinking and other uses.

Water quality can be improved by using soil management and cropping practices that match nutrient application to crop needs, promote nutrient retention in soil and nutrient uptake by crops, and limit soil erosion. Restricting livestock access to waterways, reducing the nutrient content of manure, and improving the storage, handling, and land application of manure have been instrumental in reducing water contamination by nitrogen and phosphorus. Good riparian management (the care of natural zones bordering rivers, streams, and other waterways) to maintain an adequate buffer zone between agricultural land and waterways also promotes better water quality.

Air Quality

Excessive amounts of ammonia, a nitrogenous substance emitted into the air from animal urine and manure and chemical fertilizers, can cause toxic effects in local vegetation and eutrophication of nitrogen-sensitive waters. On a regional scale, ammonia contributes to the production of acid rain and is the precursor to aerosol formation. Aerosols are involved in the formation of fine particulate matter, which is linked to smog and human health effects. Management practices that reduce ammonia emissions include better management of nitrogen in livestock diets, and improved methods for storage, handling, and land application of manure.

Particulate matter is a mixture of the solid particles and liquid droplets found in air. Airborne particulates contribute to climate change, decreased visibility, stratospheric ozone depletion, and air pollution (e.g., acid rain and smog). Agriculture contributes 13 percent of Canada's total suspended particulate emissions to the atmosphere (20 percent of particulates less than 10 micrometres in diameter and 15 percent of those less than 2.5 micrometres in diameter)[1], not counting emissions arising from animal feeding facilities, agricultural burning, or secondary particulates created from ammonia emissions.

Poor air quality can negatively affect agricultural production[2]. For example:

- Depletion of stratospheric ozone can result in greater exposure of crops to ultraviolet (UV) radiation, in many cases impairing growth, reducing yield, and altering crop quality (appearance and flavour).
- Ground-level ozone can damage leaf tissue and cause premature leaf aging, reducing the rate of photosynthesis and thus crop yields.
- High concentrations of ammonia (as found near sources) may adversely affect livestock health.

Greenhouse Gas Emissions

About 7.2 percent of Canada's greenhouse gas emissions in 2004 came from agricultural production (excluding energy sources)[3]. Greenhouse gas emissions from agricultural

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1 AAFC. *Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series Report #2*, p. 153.

2 AAFC. *The Health of Our Air: Toward Sustainable Agriculture in Canada*, pp. 61-82.

3 Environment Canada. *National Inventory Report, 1990-2004: Greenhouse Gas Sources and Sinks in Canada*, p. 34.

sources include nitrous oxide, generated from nitrogenous fertilizers and animal waste; methane, emitted directly from livestock or given off by manure; and carbon dioxide, a breakdown product of organic materials in soil and a product of combustion. Improved management practices can reduce greenhouse gas emissions and mitigate the rise in carbon dioxide levels in the atmosphere by promoting organic carbon storage in farm soils. They may also contribute to greater efficiencies in nutrient cycling, notably fertilizer use, reducing farm input costs.

Climate Change

Warmer temperatures could benefit the sector by expanding the production range and growing season in some parts of the country. However, climate change could also create conditions that support new plant and animal diseases, and exacerbate water shortages and surpluses in various locales. Research is needed into strategies that will help the sector adapt to changing circumstances driven by climate and weather.

Biodiversity

Biological (or living) resources are the source of all livestock, crops, animal pollinators of crops, and biological pest control agents, and are used to produce many pesticides and pharmaceuticals. They also provide major ecological services, such as soil formation, maintenance of soil fertility, disease and pest control, climate regulation, and water treatment. More than 500 species of birds, mammals, reptiles, and amphibians are known to reside in or to visit Canada's agricultural lands. Farms and ranches, particularly their wetlands, woodlands, riparian zones, and natural pasture, provide some or all of the habitat for these species, including food, water, shelter, and space. About half of Canada's listed species at risk are found on agricultural land, giving farmers an important role to play in protecting these species and conserving their habitat.

Biodiversity is one of the four components of the Environment chapter of the Agricultural Policy Framework (APF). A number of programs, initiatives, and policies have been strengthened, renewed, or created under the APF to address biodiversity issues as they apply to agricultural systems. However, more knowledge about the current state of natural biodiversity in agricultural landscapes is needed to ascertain how much and what kind of biodiversity is enough or desirable. A better understanding of the relationship between agriculture and biodiversity would enhance the ability to find more value in biodiversity; rapidly identify and mitigate new threats and diseases, including invasive alien species; and develop management strategies that curb habitat loss and conserve species at risk.

Issue: Producers and processors must be nimble to keep up with rapid changes in the industry.

In the face of constant change, sectoral workers must strive to keep their outlook, skills, and management style current and able to respond to new opportunities as they arise. Besides the usual technical skills needed by farmers, running a successful farm requires good business sense,

continual effort to keep abreast of new technological developments and shifting market conditions and opportunities, better awareness of government and industry support services, and enhanced computer and other technical skills. Resiliency and adaptability may be particularly needed as climate change has its effects on agricultural production in Canada. Improved skills may help enable farmers to cut their operational costs and increase the value of their products, manage human and financial resources better as an operation expands, and keep pace with rapid change in the industry. Education and training also play an important role in enabling farmers to diversify, hone entrepreneurial skills, and develop new sources of income.

Issue: Canadian farmers are getting older.

The high costs of land and farming operations, along with the financial challenges of passing a family farm on to the next generation, are making it increasingly difficult for young farmers to enter the profession. Competing urban opportunities often draw rural youth into alternative employment. According to the 2001 agricultural census, the share of farmers under the age of 35 dropped by 35 percent between 1996 and 2001, while that of farmers over 55 dropped by only 3 percent. The average age of a farm operator in 1991 was 47.5. In 1996 it was 48.4 and in 2001 it was 50. These statistics raise the concern that Canadian farmers as a group are getting older, and future shortages of agricultural management and labour could come about unless farming becomes more accessible to younger people.

Issue: Rural Canada is becoming less agriculturally based and faces challenges distinct from urban population centres.

In many parts of rural Canada, other industries have overtaken agriculture in importance, including mining, forestry, fishing, and the service industries. Over the past 50 years many farmers have left the profession, and many of those still farming supplement their farming income with off-farm employment. Only 11 percent of Canada's rural population today lives in a farming household, reducing the influence that farmers have on rural affairs and causing many rural communities to depend more on other sectors in their pursuit of sustainability. Rural communities face a host of challenges unique to their setting, including those related to communication, transportation, and access to services.

Issue: The connection between agriculture and human health is coming into clearer focus.

As consumers become better educated about the role of diet in promoting good health, they increasingly demand food products that are safe and of high quality. Ensuring food safety includes careful analysis of new foods, early detection of food-borne hazards, and consumer education in methods for safe food handling, preparation, and storage.

There is also a growing market for nutraceuticals and functional foods – foods that have specific health benefits beyond their role in nutrition. For example, the rising concern over obesity is driving the current demand for omega-3 fats.

Canadians also expect ready access to safe drinking water. Government measures to protect drinking water from source to tap have significant implications for farming practice, and call for further research and development in such areas as nutrient management and pesticide use.

Agriculturally derived airborne particulates can interfere with human respiratory mechanisms, cause chronic coughs, aggravate bronchitis and asthma, and carry other harmful substances. The unpleasant odours generated by some types of farms, though not thought to be a direct health concern, can be a source of social tension in farming communities, particularly between farmers and former urban dwellers who have relocated to rural residential developments.

3. AAFC's Contribution to Sustainable Development

Over the years AAFC has made significant contributions to the sustainable development of the agriculture and agri-food sector, and thus to Canada's sustainable development. Highlights of this work and key lessons learned along the way are described in this chapter. The reader is referred to Annex B for a more detailed look at the Department's performance against specific SDS III deliverables. Progress and lessons learned in greening departmental operations are described in Chapter 5 and Annex C.

Economic Sustainability

To be sustainable, Canadian agriculture must remain economically viable. In simple terms, this means that farmers earn a net income that allows them to continue farming economically and that the agriculture and agri-food industry maintains a competitive position in both domestic and global markets.

Good Business

Good decision making and sound business practices are the foundation of a healthy and sustainable agriculture and agri-food industry.

Agriculture and Agri-Food Canada supports producers and processors in making good business decisions by providing good analysis and reliable information. It also helps them obtain the professional business planning advice and training needed to improve their business practices in areas such as finance, accounting, expansion, diversification, risk management, marketing, human resource management, and farming or processing methods.

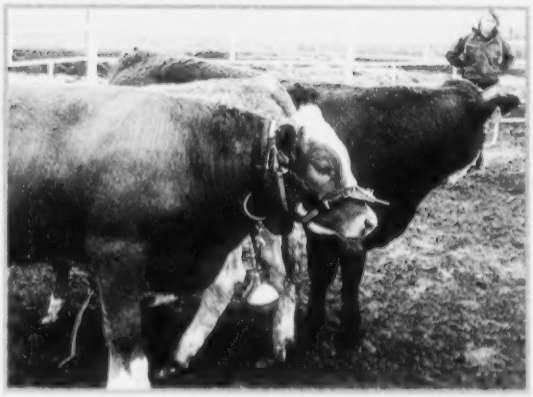
Tied as it is to natural systems, farming has always faced risks associated with bad weather, floods, insect outbreaks, animal and crop disease, and other natural hazards. Today, the rapidly changing global economy, effects of climate change, and other factors expose the industry to even greater business risks. Agriculture and Agri-Food Canada helps the sector cope with financial risks through such measures as income stabilization programming, expanded production insurance, credit programs, and support of the private sector in developing new risk management tools.

A serious business risk in recent years has been the unexpected outbreak of devastating animal diseases. Agriculture and Agri-Food Canada

responded quickly to the economic crises triggered by the appearance of bovine spongiform encephalopathy (BSE; *see* Box) and avian influenza, helping affected industry sectors to transform and reach sustained profitability following these crises.

Producing safe and high-quality food is key to maintaining consumer confidence, gaining market access, and enhancing Canada's competitive trade position. Stricter food safety and quality standards have become top priorities for trading partners and are carefully scrutinized by consumers at home and abroad. Agriculture and Agri-Food Canada has undertaken a number of measures to promote food quality and food safety, such as

- working with partners to develop a national policy on food safety and food quality;



- promoting a coordinated national approach to animal health and welfare as a means of meeting stringent international standards;
- creating a regulatory environment that is flexible enough to adapt to changing circumstances in the sector;

Response to the BSE Crisis

A number of cases of bovine spongiform encephalopathy (BSE) in Canada since 2003 created special challenges for the industry. The BSE Recovery Program, one of several AAFC programs during 2003–2006, offered price incentives to help keep the domestic market moving. It also provided improved returns to feedlots and processors to move product through the chain in light of severely depressed prices caused by the US border closure. The Fed Cattle Set-Aside Program and the Feeder Calf Set-Aside Program balanced animal supply and demand until normal trade patterns resumed and/or slaughter capacity increased. These programs were suspended when no longer required after the US border re-opened to Canadian cattle under 30 months of age in July 2005.

To assure the industry's future, additional support has been provided to assist markets, increase slaughter capacity, and enhance traceability. The Sustaining the Genetic Quality of Ruminants Program offers marketing assistance by ensuring that producers are able to continue maintaining registrations, records of performance, and other tools to improve genetics in a post-BSE environment. These tools will enable producers to sell purebreds once markets reopen, thereby ensuring the continued integrity of the purebred sector. By increasing domestic slaughter capacity, Canada reduces its dependence on the export of live cattle, limiting its vulnerability to future border closures. Enhanced traceability across the livestock and meat value chain will help in tracking down and containing sources of disease. The Department is accelerating efforts related to animal identification, premise identification, the tracking of animal movements, and the tracking of meat products through the value chain.

Food and Beverage Marketing in Japan

For the past 24 years, Canada has participated in FOODEX Japan, Asia Pacific's largest food and beverage trade show. As one of Japan's top five agri-food suppliers, Canada had strong representation at the 2006 show, with more than 45 companies and industry associations represented at the Canadian pavilion. Some of the most sought-after Canadian foods included award-winning fruits, syrups, seafood, and confectionaries, as well as beverages, including organic beers, wines, teas, and bottled water.

Japan is the top overseas export destination for Canadian food products, with trade valued at more than $4 billion (CAD) annually. Representatives of the Canadian Beef Exporters Federation and Canada Pork International promoted Canada's expanding meat export industry at the show, explaining how Canadian laws and regulations ensure that products meet world-class standards for food quality and food safety. Trade show participation is helping to build Canada's growing reputation for environmental responsibility, innovation, and service in all sectors of the food and agriculture industry.

Source: AAFC News, http://www.agr.gc.ca/cb/index_e.php?s1=n&s2=2006&page=n60313

- assisting many national industry associations in developing and implementing government-recognized process control systems for food safety and food quality;
- supporting the development of innovative products for niche markets, such as functional foods and nutraceuticals;
- helping businesses enter markets for products produced using environmentally and ethically sound practices.

Marketing and Trade

Recognizing the industry's dependence on international trade for economic viability now and in the future, AAFC has promoted the economic sustainability of the sector by

- developing and implementing a Brand Canada strategy to build international recognition for Canada's agriculture and food industry, raising awareness of the range of Canada's products, and strengthening global demand;
- publicizing Canada's investment advantages and promoting Canada as a preferred location to do business;

- providing services to Canadian exporters to help them take advantage of export opportunities, including export counselling, market entry workshops and seminars, and regional trade networks;
- working with the Department of Foreign Affairs and International Trade to achieve a more level international playing field through the elimination of all forms of export subsidies, substantial reduction of trade-distorting domestic support, and real and significant improvements to market access;
- influencing the development of international technical standards and policies and successfully negotiating Market Access Protocols with key partners;
- promoting and sharing agricultural best practices and knowledge with developing countries, with a view to developing strong, long-term bilateral trading relationships;
- supporting science and innovation that create new products, processes, or services that can be commercialized and introduced to the marketplace.

Environmental Farm Planning in Ontario

Ontario was the first province to introduce environmental farm planning (EFP). Since 1993, more than 30,000 Ontario farmers have participated in the program, representing more than half the registered farms and farm acreage in the province. The goal is to have 75 percent of farmers in the province operating under an EFP by 2008. The Canada–Ontario EFP program is delivered by the Ontario Soil and Crop Improvement Association (OSCIA) on behalf of the Ontario Farm Environmental Coalition, with federal funding provided under the Agricultural Policy Framework and in-kind technical support from the Ontario Ministry of Agriculture and Food. The Ontario Farm Coalition directs the policy and process on behalf of all Ontario farm organizations.

The EFP process begins with a workshop that introduces farmers to the program. Farmers use a series of worksheets to conduct an environmental risk assessment of their farms. A second workshop guides them through the preparation of an action plan to address environmental issues identified in the assessment. The plan is then submitted for a confidential review by a local peer-review committee. Producers with a reviewed plan can apply for technical and financial assistance to implement beneficial management practices identified in their EFP. Assistance is provided through a number of APF programs, including the Canada Ontario Farm Stewardship Program, Greencover Canada, and the Canada–Ontario Water Supply Expansion Program. Participants in the program often cite education as the chief benefit, as they come to see their operations through an environmental lens.

Source:
http://www.agr.gc.ca/env/action/index_e.php?s1=info&page=on

More information on farmers who have completed EFPs across Canada can be found at: http://www.agr.gc.ca/env/action/index_e.php#tom

Environmental Sustainability

On-Farm Results

Agriculture and Agri-Food Canada has a long track record of encouraging the environmental sustainability of the sector. For example, when it became clear in the 1980s that the erosion of agricultural soils posed a risk to productivity, AAFC responded with soil conservation initiatives that began to turn this situation around. Farming methods began to change, in large part as awareness of newly developed beneficial management practices grew and farmers gained better access to technical assistance under government programming. Since then, the overall health of agricultural soils in Canada has improved. Positive national trends include reduced wind, water, and tillage erosion of soil; reduced soil salinization; and increased soil carbon content (indicative of carbon sequestration, or storage, in soils).

While knowledge of soil conservation practices was growing, AAFC worked with provincial and territorial partners to introduce the concept and principles of broader environmental farm planning to the farming community. Environmental farm plan programming is now operational in all 10 provinces and one territory (*see* Box on previous page describing EFP in Ontario). Today more than 50,000 producers across Canada have a reviewed plan, and numbers continue to grow.

Another significant move in the direction of environmental sustainability is the 6-percent drop in agricultural greenhouse gas emissions between 1991 and 2001[1]. This change is mainly the result of increased carbon sequestration in agricultural soils. Once the full potential of agricultural soils to act as a carbon sink has been reached, this positive trend is expected to reverse if nitrous oxide and methane emissions continue to climb. A new science-based calculator to quantify greenhouse gas emissions from Canadian agriculture is helping producers find ways of reducing on-farm greenhouse gas emissions (*see* Box).

Agriculture is water-limited in many parts of Canada. Agriculture and Agri-Food Canada has been active in helping to stabilize the agricultural

1 AAFC, *Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series Report #2*, p.142.

water supply in drier regions, supporting the development of infrastructure and enhancing the decision-making capacity for water development by expanding the related knowledge base. It also develops and promotes beneficial management practices related to crop nutrient management, manure management, pesticide use, erosion control, and other aspects of land management to limit agriculture's potential to contaminate adjacent and underlying water.

Through the conservation of biodiversity and wildlife habitat on the lands it manages, AAFC supports the Canadian Biodiversity Strategy, as well as Canada's commitments under the international Convention on Biological Diversity. These measures also help raise awareness among farmers and ranchers of the importance of ecosystem health, biodiversity, and species at risk, and of the benefits of conservation practices. Departmental scientists studying biological resources have added to the knowledge of plants, insects, and pathogens, improving their understanding of how these organisms interact in an agricultural context. This knowledge helps to maintain accurate reference collections, which are used for the rapid identification of agricultural threats, such as invasive alien species. The Department has also improved its capacity to conserve and use genetic resources, an increasingly valuable tool in plant and animal breeding and biotechnology.

Advances in integrated pest management technologies are helping to reduce the environmental effects of crop protection practices on agricultural lands. Reduced-risk solutions to problems with priority pests offer greater

Greenhouse Gas Calculator

Measuring the net effect of different farming practices on the emission of greenhouse gases (GHG) is difficult, because management variables are often intricately linked. A practice that reduces the emission of one gas may increase the emission of another. Accounting for the complexity of these interactions when calculating net agricultural emissions requires a computer model.

Agriculture and Agri-Food Canada researchers have recently developed such a model – a GHG calculator that can be used to estimate emissions from entire farming systems. This web-based program was built using the best current understanding of biophysical processes and their interconnections, and mathematical equations based on expert knowledge and experimental findings. By inputting information for an individual farm, users can calculate GHG emissions under a variety of management scenarios and evaluate a range of mitigation strategies. This unique tool has now been released to the public (including industry groups, universities, and farmers) and will be useful in further development of AAFC's strategic plan for climate change. It will help guide producers and policymakers toward practices that reduce GHG emissions from farms. Future versions may also evaluate how farming practices can improve air, water, and soil quality in other ways.

Download the calculator at:
http://ncgavs.usask.ca/ghg_calculator

Source: Janzen, H. et al. 2006.
***A proposed approach to estimate and reduce net greenhouse gas emissions from whole farms.* Can. J. Soil Sci. 86: 401–418.**

protection of human health and the environment and greater competitiveness of the agri-food and forestry sectors.

Knowledge and Information

Sound decisions in support of the environmental sustainability of the sector depend on the availability of reliable, science-based information. Agriculture and Agri-Food Canada has worked to expand the knowledge base and generate useful information related to the environmental performance of the sector by

- undertaking research on the impact of agriculture on soil, water, and air quality, and biodiversity;
- further developing the Department's suite of science-based indicators of environmental performance in the sector by refining existing indicators and adding new indicators for the processing sector;
- establishing the new National Land and Water Information Service (*see* Box);
- establishing the National Agroclimate Information Service, aimed at providing timely climate information to farmers and other decision makers;
- working with Environment Canada to develop a set of non-regulatory, science-based agri-environmental performance standards for air quality, water quality, biodiversity, and pesticides that will be used to identify both desired levels of various environmental conditions and levels considered achievable based on available technology and practice;
- collaborating with other federal departments in the development and application of a Canadian Water Sustainability Index tool for assessing trends in watershed health at a local community level.

National Land and Water Information Service

A major success in enhancing the decision making capacity for sustainable development is the inception of the National Land and Water Information Service, a coordinated national service that provides easy and timely access to detailed geographic information and interpretive models in support of local and regional land-use decision making. Expected to be fully operational in 2009, the service will leverage existing capability, scientific knowledge, information, expertise, and technological capacity, strategically linking information about land, soil, water, air, climate, and biodiversity from many sources, including all levels of government, non-government organizations, and the private sector. The first phase of the project has been completed, delivering a single service window that provides a recognized access point on the internet for entry into existing AAFC geographic data holdings and applications.

For more information, visit:
http://www.agr.gc.ca/nlwis-snite/index_e.cfm

Social Sustainability

Social sustainability is, in many ways, the most difficult of the three sustainable development pillars to define and measure. It reflects the capacity of individuals and communities to contribute to their own well-being while ensuring that future generations can do the same. For the individual, this capacity embraces personal values, health, education, skills, and the potential for growth. Community capacity arises as people relate to each other and pool individual resources to operate collectively toward common goals.

Agriculture and Agri-Food Canada is primarily an economic department, but many of its current

programs and activities, as well as programming in previous years, have had social benefits. For example, a field demonstration of conservation tillage not only introduces a practice that benefits the environment and improves farm economics, but also adds to a farmer's skill set and supports a value system that includes a stewardship ethic.

Agriculture and Agri-Food Canada has contributed to the social sustainability of the sector by

- protecting human health through reduced exposure to food-borne hazards;
- contributing to better human nutrition and greater wellness through the preservation and enhancement of the composition and functional properties of food;
- providing opportunities for producers and processors to expand their personal knowledge and skill sets;
- fostering the values and principles of resource stewardship, intergenerational equity, and gender equality;
- through the Co-operatives Secretariat, building community capacity to respond to social, economic, and environmental challenges at the local level by supporting co-operatives;
- through the Rural Secretariat, advocating for rural Canadians and coordinating federal programs, policies, and activities in support of their communities.

Models for Rural Development and Community Capacity Building

Models are approaches that rural communities are successfully using to address the challenges they face. Through the Rural Secretariat's Models for Rural Development and Community Capacity Building program, successful models are being tested in other rural communities to gain a better understanding of which approaches work best in different rural areas. Models are selected for their ability to build capacity in rural communities – to develop leadership, engage citizens in developing a shared vision for their community, and enable them to mobilize internal and external resources to meet local challenges.

Information developed through the program will support all levels of government in decision making related to programs and services for rural Canadians, as well as future policy directions. It will also benefit the individuals, organizations, and communities that work with the models, helping them to develop strategies for effective action and to increase their individual capacity to take advantage of opportunities. When fully operational, the program will reach 200 rural, remote, and northern communities.

Source:
http://www.rural.gc.ca/programs/mrdi_e.phtml?content=faq

Lessons Learned

A key lesson that stands out in AAFC's experience is that progress toward sustainable development is slow and steady. By the time its first sustainable development strategy was tabled in 1997, the Department already had many years of experience in promoting an ecosystem approach to farm management and many more years' experience with soil conservation. This experience gave AAFC a head start when it came time to frame work for environmental sustainability under SDS requirements. The Department also had a strong track record for helping Canadian farmers to stay economically viable. In the nine years since SDS I, AAFC's early environmental and economic work has continued to produce good results, including support for the social sustainability of the sector, and to serve as a stepping stone for new strategic initiatives.

Another lesson is that sustainable development strategies must remain adaptive to the many changes that take place in a highly dynamic world. In the agriculture and agri-food sector, these changes may take the form of variable weather, scientific discovery, evolving markets, or any of a host of other developments, but they all mean that work toward sustainable development must be flexible and accommodating of new issues as they arise.

Across the full continuum of sustainable development, but more particularly for science-based and environment-dependent sectors such as agriculture, science and innovation are very important factors in our ability to advance the goals of sustainable development. From improved land management practices and better knowledge of the movement of water through the agricultural landscape to the development of novel foods and bio-products and processes, science and innovation enable agriculture to be more productive and environmentally sustainable and open up new markets for agri-food products.

Finally, no single organization has all the ideas or resources needed to generate the scientific knowledge and innovations upon which continued progress toward sustainable development will be built. The Department's success in this area depends to a large extent on effective partnerships with other governments, institutions of higher learning, and industry. Indeed, productive partnerships, including close collaboration with other federal departments to achieve federal goals for sustainable development, are essential to all aspects of sustainable development work.

Building on this Progress

This chapter summarizes the contributions that AAFC has made over the years on the path toward sustainable development. These contributions have been described in terms of economic, environmental, and social sustainability, with various linkages among the three pillars pointed out along the way. Further progress will be made as greater attention is given to integrating the three sustainable development pillars, a new departmental emphasis that is discussed in the next chapter.

4. Enhanced Integration

As the concept of sustainable development strategies has matured across the federal government, and as AAFC has gained more experience in building the concept of sustainable development into its operations and services, it has become clear that sustainable development cannot be advanced effectively through independent work under each of the three sustainable development pillars. Agriculture and Agri-Food Canada is making progress towards enhanced integration of the three pillars in its work as a department. In this, the Department's fourth sustainable development strategy (SDS), an effort is being made to build on previous experience in SDS design and implementation and to move forward into better integration of the three pillars. This approach reinforces the concept that sustainable agriculture is truly an interplay among that part of the Canadian economy supported by the agriculture and agri-food industry, the environment in which agriculture takes place, and the people who practise agriculture and reap its benefits.

The Integrative Nature of the Agricultural Policy Framework

The Agricultural Policy Framework (APF) is integrative by nature, guiding AAFC's efforts to support the economic viability of the agriculture and agri-food sector while enhancing its environmental performance and benefits to society. Examples of integrative initiatives exist in each of the five focus areas of the APF – Environment, Food Safety and Quality, Science and Innovation, Business Risk Management, and Renewal, as well as Markets and International Trade. The APF's Renewal component, for example, embraces the economic goal of increasing farm profitability through improved access to business management advice and training. Its social benefits include helping people adapt to change and addressing educational needs, the needs of low-income families, and issues unique to family businesses. Environmental benefits are achieved as environmental considerations are built into business plans.

The provision of reliable information for decision making is another means of supporting sustainable development across the board. For example, when the new National Land and Water Information Service under APF Environment is fully operational, it will provide information and decision support tools that can add a geospatial dimension to policy research and development. It will also benefit stakeholders by enhancing their awareness and understanding of the close relationship between the economic viability of agriculture and the environment, and by enabling them to make more prudent responses to market and environmental realities, better positioning them to capitalize on economic opportunities.

Integration Initiatives

This sustainable development strategy embodies AAFC's commitment over the next three years to better integrate the three pillars of sustainable development. Initiatives that will help fulfil this commitment are described here. The Department's specific commitments related to these initiatives are outlined in the Logic Model on Integration Initiatives presented in Chapter 6.

The Next Generation of Agricultural Policy

Federal, provincial, and territorial agriculture ministers have met to discuss the next generation of agriculture and agri-food policy to follow the APF, agreeing on the need for a strong policy foundation, the importance of committed partnership between governments and industry, and the value of a broad-based, multi-phase consultation process. Various groups are now working to examine overarching issues; identify policy issues under the themes of environment, safety and quality in Canada's food chain, innovation and science, market development and trade, and using skills and knowledge in the next generation; and prepare for consultations.

The chief goal under the new policy will be to promote a profitable and competitive sector that is well positioned to take advantage of economic opportunities as they arise in a changing environment while reducing environmental impact and contributing to social interests such as the health of Canadians. Early discussions have pointed to the need for a policy structure that recognizes and works with the linkages between and among the various themes under the policy.

striving for greater integration among them. They have also identified the value of

- taking a more holistic approach to risk management;
- focussing on government's enabling role;
- emphasizing non-expenditure policy tools, such as creating a regulatory environment conducive to innovation;
- involving all players along the value chain;
- responding to regional differences and the needs of different types of producers and processors;
- recognizing the growing distance between agricultural and rural issues.

During the consultations, stakeholder views will be sought regarding the government's highest priorities in the new policy given limited resources and the current state of Canadian agriculture and agri-food in a rapidly changing world. Results of the first phase of consultations, held throughout Fall 2006, will be used to formulate the policy prototype, which will then undergo a further round of consultations in 2007.

Support for Integration:

- The next generation of agricultural policy will be built on a clearer understanding of the economic, environmental, and social implications of high-level agricultural policy.
- While the chief goal of the new policy is an economic one, it is understood that this goal cannot be reached without levels of environmental performance and social contribution acceptable to society.

Canadian Rural Partnership

Canadians who live in rural and remote communities face many unique challenges. Agriculture and Agri-Food Canada's Rural Secretariat coordinates federal work in support of the sustainable development of these communities. The major policy framework that guides this work is the Canadian Rural Partnership, through which the federal government responds to rural needs by conducting research on issues of concern and disseminating rural information to stakeholders and other federal departments. An interdepartmental working group representing 32 federal departments and agencies, along with rural teams working in each of the provinces and territories, implements the program.

An important element of the program is the Rural Dialogue, a two-way discussion that allows rural Canadians to make their needs and concerns known to the government and to influence the development of new policies and programs that affect them. This dialogue helped the federal government build an overall rural strategy called the Framework for Action in Rural Canada. Commenced in 1998, the Canadian Rural Partnership was renewed under the Agricultural Policy Framework and runs until 2008.

Support for Integration:

- The Rural Secretariat applies a holistic and sustainable approach to rural and remote community development, emphasizing consideration of the economic, social, and environmental sustainability of these communities.

Agricultural Bioproducts Innovation Program

Many organizations in Canada are involved in biomass innovation, but their efforts are fragmented and lack a comprehensive strategy. No single organization has sufficient expertise and resources to move products quickly to commercialization. Creation of a Agricultural Bioproducts Innovation Program supports the establishment, development, and operation of bioproducts research networks that will stimulate creativity and enhance information sharing and collaboration among researchers. As a result, research and development activities will be streamlined and technology transfer and

commercialization of agricultural bioproducts in Canada hastened.

Support for Integration:

- Networks will assist rural economic development aimed especially at the agricultural sector.
- Bioproduct development will help to meet environmental goals, such as those related to development of renewable energy sources.
- Some bioproducts hold promise for promoting human health.

Sustainable Development Awareness Building

Agriculture and Agri-Food Canada recognizes the importance of promoting greater awareness and a fuller understanding of the concept and practices of sustainable development among its employees, its partners, and the groups and individuals it serves. To fulfil this purpose, the Department

- has established a Sustainable Development Working Group to advise on issues related to sustainable development, including the development of AAFC's sustainable development strategy;
- has developed a series of test questions to evaluate how well new policies and programs encourage and support sustainable development;
- collaborates with other federal departments through participation in the Interdepartmental Network for Sustainable Development Strategies, which includes a subcommittee on awareness, communication, and training;
- posts its sustainable development strategy and related material on its external website (www.agr.gc.ca/sds-sdd/sds-sdd_e.phtml) and promotes sustainable agriculture in fora such as Environment Week.

Support for Integration:

- Awareness-building activities hold great potential to inform people that social, economic, and environmental interests are all interwoven in the concept of sustainable development.
- Sustainable development test questions provide a litmus test for the development of new policy and programs, helping to determine the extent to which they strengthen the economy, improve the environment, enhance the health and social well-being of Canadians, and establish linkages between these areas, prior to approval and implementation.
- The test questions ensure that integration is considered before policies and programs are approved and implemented.
- Greater awareness of sustainable development encourages people to become more actively involved in contributing to sustainable development in their homes, schools, workplaces, organizations, and other spheres of influence.

Information and Tools

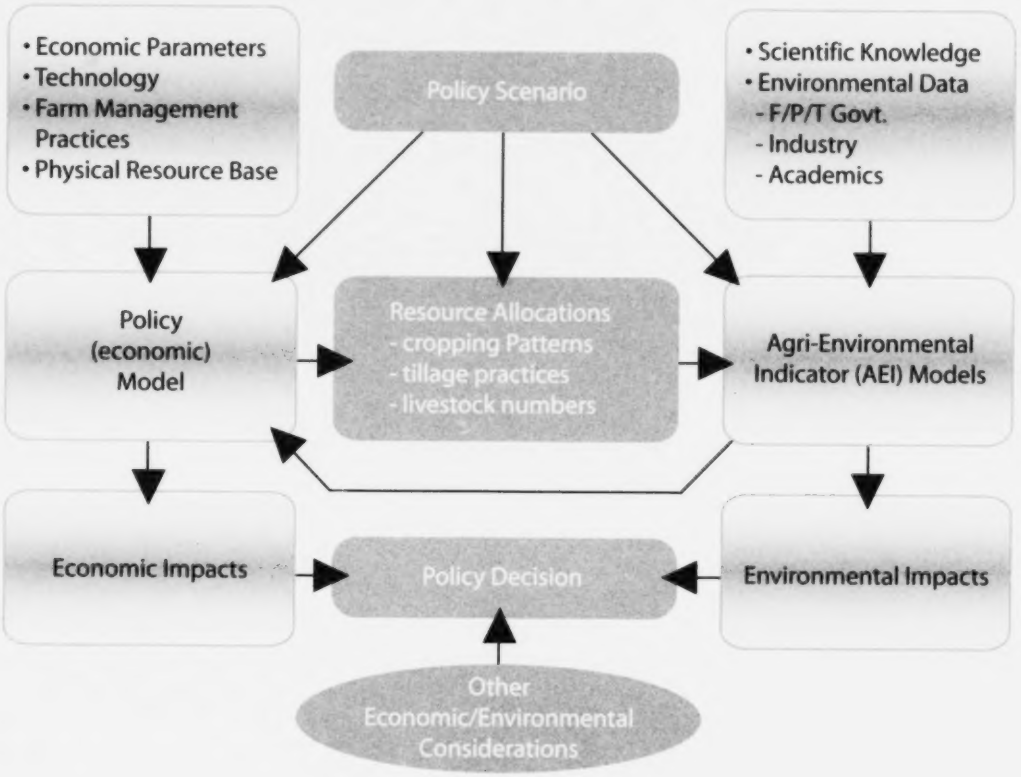
Strategic Environmental Assessment

In accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*, AAFC conducts strategic environmental assessments (SEA) to identify the potential environmental impacts of new policies, plans, and proposals when seeking ministerial or cabinet approval. New proposals undergo a preliminary scan to assess potential environmental impacts, both positive and negative. If no significant environmental impacts are found, the SEA process is considered complete. If a significant environmental outcome is determined, or if a high level of uncertainty or risk is associated with the outcome, then a detailed SEA is conducted to enable a closer analysis of the environmental effects. The Department has implemented a management system and developed training material to ensure that AAFC meets the SEA requirement and continues to build departmental knowledge of SEA.

Support for Integration:

- An SEA allows decision makers to incorporate environmental considerations, in balance with economic and social analysis, into the development of public policies.

Figure 4.1: **Integrated Economic/Environmental Analysis – Linking Science to Policy**



This diagram illustrates how economic models and science-based biophysical models are integrated to provide input into the policy development and evaluation process.

Integrated Economic/ Environmental Modelling

Science-based agri-environmental indicators (AEI) developed under the National Agri-Environmental Health Analysis and Reporting Program (NAHARP) are being linked to economic outcomes to enable better integration of indicator results into AAFC's policy evaluation and development. One method of doing this has involved integrating economic models with AEI models (*see* Figure 4.1 on previous page). The integrated modelling system uses a well established policy model, the Canadian Regional Agricultural Model, to estimate changes in farm resource allocations (crops and livestock) and feeds this information into AEI models to assess a suite of environmental impacts. Integrated models can be used to evaluate existing programs in terms of environmental performance, and to estimate the economic and environmental impacts of proposed programs, thus informing the policy decision-making process.

Support for Integration:

- Integrated modelling creates a direct link between the economic and environmental pillars of sustainable agriculture, allowing proposed government policies and programs to be assessed for economic and environmental impacts simultaneously.
- From a socio-economic perspective, the models can help to examine proposed government policies and programs in terms of regional impacts, as well as impacts on producers and consumers.

Agri-Environmental Valuation

Agri-environmental valuation applies another method for linking agri-environmental indicators to economic outcomes. Through NAHARP, AAFC has begun to use market and non-market valuation methodologies to estimate the monetary value of both positive and negative environmental impacts associated with agricultural production. This new tool will enable the Department to conduct cost–benefit analysis and enhance the formulation of policy that must balance the trade-offs between environmental and economic outcomes.

Support for Integration:

- Economic valuation allows direct comparison of the economic, environmental, and social impacts of agriculture, enabling better analysis of the best balance, and supporting a better mix of agricultural policies and programs.
- The evaluation of the end effects of environmentally sound management practices on human well-being in monetary terms allows a more accurate analysis of the economic and social benefits of these practices.

Social Indicators

In SDS III, AAFC committed to working with the International Institute for Sustainable Development to better define the social dimension of agriculture, and to develop social indicators for measuring and monitoring progress in this area. Work is under way to identify priority social issues (*see* Figure 4.2) in collaboration with an external social indicators working group, which includes representatives

from national agriculture organizations, industry groups, and academia.

After review of these priority issues by AAFC and comparison to social issues identified through a literature review, a final list will be drawn up and used to develop indicators. Although this initiative may not be integrative in its early stages, when fully developed the indicators will be combined with environmental and economic indicators to create an integrated sustainable development model for agriculture.

Support for Integration:

- Social issues faced by the sector will become better known and understood through the development of agricultural social indicators.
- Social indicators will be incorporated with economic and environmental information in decision-making for sustainable agriculture.

Figure 4.2: **Draft Short List of Social Issues Identified for Potential Indicator Development November 2005**

SOCIAL ISSUES *
Farm family finances
Perceived quality of life on the farm
Socio-economic infrastructure
Formal / informal governance
Empowerment through collective organization
Succession
Farm and non-farm linkages
Youth involvement in agriculture
Knowledge generation and transfer
Social safety nets
Physical and mental health
Crime

* Social issues are ranked in order of perceived importance

Research – Model Farm Research Program

Canadian farmland has the potential to offset a portion of Canada's greenhouse gas (GHG) emissions through the adoption of management practices that increase the amount of carbon stored in soil. The Model Farm Research Program was established to quantify agricultural GHG emissions and to identify effective ways of reducing these emissions from farms. These tasks are complicated by the many farm processes involving soils, plants, animals, and fuel use that absorb or release GHG. The production of biofuel adds yet another consideration.

The ultimate aim of the program was the creation of a science-based GHG calculator that predicts the net emission of greenhouse gases from a farm as a function of farm conditions and management practices (*see* Box, p. 23). The calculator will provide a valuable tool for farmers to identify beneficial management practices before making a substantial investment of time and money, and for policy makers in developing more effective agricultural policy. Over the next few years, the calculator will be made more effective by working closely with industry groups and producers to test it and improve its algorithms using on-farm measurements of GHG emissions.

Support for Integration:

- The Model Farm program looks at Canadian farms as systems, with interactions among farm elements and outside environments and communities. Its ecological approach emphasizes the interconnectedness of all three sustainable development pillars in agriculture.
- The program provides a scientific understanding of the flows of carbon, nutrients, and energy through farms and into adjacent ecosystems, shedding light on a host of primary environmental issues, including air quality, water quality, soil quality, and biodiversity.
- Improvements in each of these areas promote ecosystem and human health, and bolster the economic viability of agriculture.

Work with the Sector to Apply and Refine Integrative Approaches

Ecological Goods and Services Policy Framework

Agriculture is both a recipient and provider of "public" environmental benefits, also known as ecological goods and services. These benefits are rarely recognized in the market system. Under the ecological goods and services (EG&S) policy framework, AAFC analyzes environmental benefits that are not recognized by the market system, and examines existing programs or regulations with a view to improving the current system. For example, the Department is examining various options for applying a monetary value to the ecological goods and services generated when farmers implement various beneficial management practices.

Work under the EG&S policy framework takes a whole-system approach, exploring complementary programs and partnerships that could enhance ecological goods and services in an agricultural landscape. Agriculture and Agri-Food Canada's collaboration with the Policy Research Initiative, the Canadian Water Network, and Environment Canada to examine the feasibility of using water quality trading (*see* Box) as a market-based tool to address agricultural pollution exemplifies the type of effective partnership the Department is pursuing under this initiative.

Undertakings under this policy framework will support the viability of farming through a greater understanding of how ecosystem processes such as soil renewal, climate regulation, and water cycling are affected by production practices. They will also communicate and substantiate the concept that well managed agricultural lands can provide benefits to society, such as fish and wildlife habitat, scenic views, and purification of air and water through natural processes.

Support for Integration:

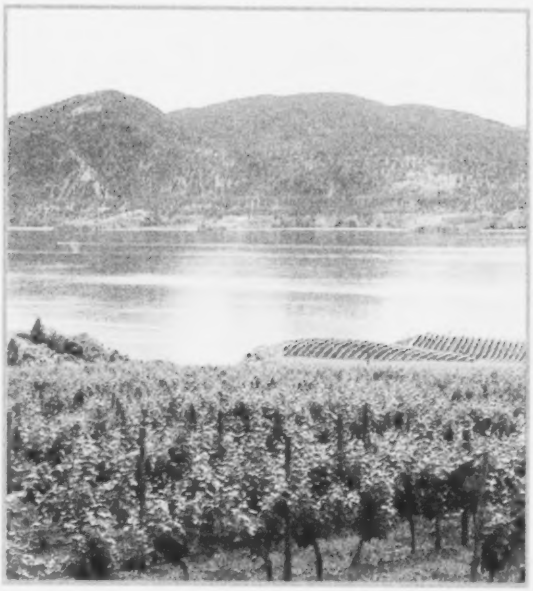
- Ecological goods and services policy creates a common basis on which to compare the economic pillar of market production with agriculture's ecological impacts.

Water Quality Trading

Water Quality Trading (WQT) is an innovative policy tool that promises, in some situations, to be as effective or better than regulation in reducing water pollution, at less cost and with greater flexibility. Under a WQT system, farmers could earn pollution-control credits by using environmentally beneficial management practices on their farms. These credits could then be sold to regulated "emitters" (facilities that face high costs to meet their requirements for reducing pollution) within a watershed.

This system creates a new economic opportunity for farmers and reduces the cost of pollution control for large emitters while improving environmental conditions in the watershed. Water Quality Trading also has the potential to improve social conditions by bringing together farmers and other watershed stakeholders in a positive relationship built on a deeper understanding of the workings and needs of the watershed. With the Policy Research Initiative, Environment Canada, and the Canadian Water Network, AAFC undertook a project to explore the biophysical considerations and the policy, legislative, and design considerations of this option. A final report is available on PRI's website (http://policyresearch.gc.ca/doclib/SD/PR_SDWQT_200605_e.pdf>).

- Healthy agricultural ecosystems provide environmental benefits that are critical to the overall welfare of humans. Integrating environmental benefits into agri-environmental policy and programming could help to maintain an optimal flow of these benefits to farmers and other Canadians and ensure a prosperous agricultural economy both now and in the future.
- The principles underpinning ecological goods and services policy focus on environmental objectives based on sound scientific knowledge of the state of the environment, reflect the expectations of Canadians, and are sensitive to regional issues and opportunities.



Integrated Water Resources Management

Nations meeting at the World Summit on Sustainable Development in Johannesburg in 2002 committed to Integrated Water Resources Management (IWRM), defined as a process that promotes the coordinated development and management of water, land, and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems[1]. Agriculture and Agri-Food Canada supports Canada's efforts in this regard by encouraging the integration of an IWRM approach in agri-environmental programs and water management activities. The goal is to improve the protection of source waters from agricultural impacts in watersheds and ecosystems while sustaining agricultural profitability.

More specifically, AAFC aims to provide credible, science-based agricultural and water information, innovative decision-support tools, and watershed-level beneficial management practices to support watershed planning and management activities. It also aims to improve the financial, technical, and organizational capacity of watershed groups to manage watersheds with a strong agricultural presence. Integrated Water Resources Management will be supported by information and decision-making tools forthcoming under the National Land and Water Information Service.

Support for Integration:

- IWRM is emerging domestically and internationally as the preferred approach to implementing changes and managing land and water resources in balance with environmental, economic (including agriculture), and social needs.
- Integration occurs both within and between two systems, natural and human. IWRM is concerned not only with natural resource management, but also with building the capacity of stakeholders to manage those resources.
- The IWRM process involves a range of stakeholders in developing sustainable solutions that consider both agriculture's need for water of adequate quality and the impact of agriculture on water in terms of both productivity and environmental health.

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[1] Global Water Partnership. "Setting the Stage for Change." p. 59. Available online at: http://www.gwpforum.org/gwp/library/IWRMSurvey-final.pdf

Programs

Co-operative Development Initiative

A co-operative is an enterprise that is jointly owned by the members who use its services, and governed by a one-member, one-vote democratic system. The Co-operative Development Initiative, launched in 2003 by the Co-operatives Secretariat, provides funding for research and development of the co-operative model. The program's Advisory Services component enhances co-operative development capacity by offering technical and organizational assistance to new and existing co-operatives (*see* Box).

Projects under the Innovation and Research component of the program are selected through a competitive application process and fall into six priority areas: adding value to agriculture; improving access to health care and home care; supporting economic development in rural, remote, and northern communities; developing Aboriginal communities; integrating immigrants into Canadian communities; and encouraging community solutions to environmental challenges.

Support for Integration:

- The program's community-based approach develops healthy, supportive, and place-based understanding and responses to social, environmental, and economic challenges.
- The co-operative model enables communities to develop and manage innovative local structures of ownership and production, building local capacity to act.
- Co-operatives create the critical mass needed to influence decision making in the direction of sustainable community development.

Canadian Farm Families Options Program

The two-year Canadian Farm Families Options Program, announced in August 2006, provides short-term income support to eligible applicants who agree to a farm business assessment by the Canadian Farm Business Advisory Services or its equivalent, or take skills training through existing AAFC programs. This program encourages low-income farmers to take stock of their business plans and farming operations and to

determine what changes are necessary to generate a higher income in future years.

Support for Integration:

- This program discourages the status quo of farms that fail to prosper, and moves farmers in the direction of positive economic change.

Examples of Co-operatives

Projects funded under the Co-operative Development Initiative typically respond to a combination of social, economic, and environmental concerns at the community level. Examples include:

- **Resource-based co-operatives that are formed to provide employment and stewardship in agriculture, forestry, and fishery**
- **Co-operatives that are developing alternative energy sources and systems to provide their communities with greater energy choices**
- **Service co-operatives, such as transportation and ambulance co-operatives, that provide both employment and services**
- **Co-operatives that seek to integrate different sectors of society, such as immigrants, through economic and social activities.**

For more information on the Co-operative Development Initiative:
http://www.agr.gc.ca/rcs-src/coop/index_e.php?s1=init&page=intro

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- Better income prospects help farmers and farm families to better meet their social needs, such as improved housing and additional education.
- A farm business assessment may point to the need for improved environmental performance.

Summary

These initiatives illustrate AAFC's interest in better integrating its work across the three pillars of sustainable development. The next generation of agricultural policy will provide a strong framework under which these initiatives will continue. Such initiatives typically focus on one area of sustainable development, such as the environmental focus of Integrated Water Resources Management, the human focus of the social indicators, and the economic focus of agri-environmental valuation. However, considerable overlaps with the other two areas ensure benefits and answers to concerns across the entire continuum of sustainable development.

These initiatives also help to fill in identified gaps in knowledge and action and to establish linkages with other work, further enhancing integration. Agriculture and Agri-Food Canada's ongoing efforts to integrate its work under the three sustainable development pillars in this way will support truly sustainable agriculture in Canada – agriculture that, in an integrated and comprehensive way, attends to the needs of people, protects the environment and makes judicious use of its resources, and ensures the economic viability of farms and other components in the chain of food production, processing, and distribution.

5. Greening AAFC's Operations

Since their inception in 1997, federal sustainable development strategies have included a component on the role of federal departments in leading Canada's sustainable development efforts by serving as good examples through the "greening" of their own operations. Over the course of the last 10 years, various interdepartmental groups and federal departments have provided guidance on how to achieve this goal.

Federal Context

For the fourth round of sustainable development strategies, the Treasury Board of Canada Secretariat, Environment Canada, and Public Works and Government Services Canada (PWGSC) took the lead in furthering efforts to green government operations. A draft framework was presented in October 2005 that streamlined the governance structure for greening government operations and created an architecture for new program activity. Among other things, the framework was designed to

- create a more complete picture of government spending and alignment with results;
- make it easier for departments to work toward common outcomes and track common indicators and measures;
- identify risks as part of the management process;
- facilitate reallocation of resources from less effective to more effective programs.

In April 2005, PWGSC created the Office of Greening Government Operations to offer government-wide leadership in, and support for, greening the federal government's operational activities. The Office was tasked with advising departments on the federal government's main priorities for the greening of their operations.

AAFC's Assets

Agriculture and Agri-Food Canada manages extensive assets, including some 1100 vehicles, 2400 buildings with 650,000 square metres of multipurpose building space, and 955,000 hectares of land. Facilities under operation include research centres, experimental farms, community pastures, and water supply systems. These numerous different assets open up many opportunities for AAFC to continue to employ greener operational practices. They also present some challenges related to implementation of these practices. Responsibilities for greening

AAFC's operations are defined and outlined in AAFC's Environmental Policy for Internal Operations.

The Department has been involved in initiatives to green its operations for many years, particularly projects to identify potential contaminated sites and to enhance the energy efficiency of buildings. Greening AAFC's operations also includes waste and wastewater management, attention to water quality, and the greening of fleet vehicles.

Progress Under SDS III and Lessons Learned

In SDS III, AAFC stated that it would carry out sustainable initiatives related to its own operations in seven key areas, in keeping with the federal framework in existence at that time under the Sustainable Development in Government Operations initiative. These areas were:

- Emergency Preparedness and Response;
- Land Management;
- Building Energy Management;
- Fleet Management;
- Waste Management;
- Water and Wastewater Management;
- Procurement.

Progress toward the specific outputs defined in SDS III is recorded in Annex C. Agriculture and Agri-Food Canada faced a number of challenges in achieving some of these results, and some were only partially delivered. Several factors came into play in implementing the previous strategy, including the complexity of the Department's operations, the resources available both to develop and to deliver programs, the diversity and decentralized nature of AAFC operations, the availability of consultants in specific areas of the country, and the emergence of new priorities that necessitated the reallocation of resources.

This time around, more consultation was carried out with internal stakeholders on priorities, workload, and logistics of implementation, with the intent of identifying deliverables that are more realistic and will lead to better overall progress. Where SDS III commitments were only partially met, work plans have been reviewed and refined and work is under way to meet the commitments over an extended time-frame. An example of a new priority that arose during the course of SDS III is the federal focus on water quality. In this case, formal initiation of a water conservation program was put on hold to allow for a more holistic and risk-based approach to water management. Information about the water systems in AAFC facilities was gathered, laying the groundwork to develop water conservation measures in the future.

Priorities for this SDS

In the 2005 audit of the third round of sustainable development strategies, the Commissioner of the Environment and Sustainable Development recommended that departments prepare their fourth strategies with a focus on fewer targets and a tighter linking of targets and actions to goals and objectives. In response, AAFC conducted a risk assessment to determine the significance of various environmental issues related to its

operations. This exercise identified the following high priorities: contaminated sites management, *Species at Risk Act* (SARA) assessments of land holdings, halocarbon management, water quality, and green fleet. These priorities were validated through an internal consultation process, which also defined specific outputs for this sustainable development strategy. At the same time that AAFC was undertaking this exercise to prioritize its environmental impacts, the Office of Greening Government Operations issued a guidance document that articulated three government-wide priorities: building energy, vehicles, and green procurement.

Recognizing the priorities outlined above and building on the work accomplished and lessons learned under SDS III, over the next three years AAFC will further the greening of its operations through three long-term outcomes: environmental management, environmental protection, and conservation. Within these outcomes, targets and performance indicators have been identified for high-priority areas, and work will continue in other areas of lower priority. An annual review of priorities will allow any necessary adjustments over the period. Both types of activity are described below.

Outcomes, Targets, and Performance Indicators

Environmental Management

An environmental management system (EMS) is an important tool in achieving enhanced efficiency and reducing waste, because good environmental management not only improves an organization's environmental performance but also makes good business sense. A good EMS enables a systematic management approach to greening organizational operations, including planning, implementation, reporting, monitoring, and corrective action. It includes the development of a departmental environmental policy, identification of the significant environmental impacts of an organization's activities, establishment of outputs and performance indicators consistent with policy, and creation of programs to achieve these targets and objectives.

Agriculture and Agri-Food Canada's approach over the next three years will be to develop a high-level or corporate EMS that will address the main elements described above and provide an overall management framework under which to manage the greening of its operations. The EMS will also guide on-site implementation of specific programs.

Environmental Protection

Agriculture and Agri-Food Canada seeks to limit its impact on the environment by complying with all relevant environmental legislation and acting as an effective steward of the Crown properties of which it is custodian. Relevant legislation includes the *Canadian Environmental Protection Act, 1999; Canadian Environmental Assessment Act;* and *Species at Risk Act*, among others. To protect the environment, AAFC is reducing its potential to pollute by managing storage tanks, waste, wastewater, Polychlorinated Biphenyls (PCBs), and halocarbons.

Contaminated Sites

The Government of Canada is committed to taking action on federal contaminated sites to protect both human health and the environment. This commitment was reflected in the 2004 Federal Budget through the Federal Contaminated Sites Action Plan (FCSAP) program to assess and clean up federal contaminated sites. Agriculture and Agri-Food Canada has been actively managing its contaminated sites since the early 1990s, following an in-house "Phase I" contaminated site assessment of all its properties. Five years ago, AAFC initiated third-party Phase I ESAs of its properties to identify potential contaminated sites. Under the FCSAP program, AAFC will carry on with this process, conduct follow-up assessment, and continue to deal with sites on a risk priority basis.

Halocarbon Management

Agriculture and Agri-Food Canada's Halocarbon Management program was developed to ensure compliance with Federal Halocarbon Regulations and to formulate comprehensive plans for the use, control, and orderly phase-out or reduction of CFCs at all AAFC sites. Activities to achieve these objectives include reduction and prevention, where possible, of the emission of halocarbon refrigerants and their alternatives, further development of the current Halocarbon Management Plan and related best practices, and the reduction of CFCs and orderly transition to alternative substances and technologies.

Other Ongoing Activities

Other activities that promote environmental protection and will continue throughout the three-year period of this strategy include ensuring compliance of storage tanks with safety and environmental legislation, management and reporting of environmental assessments, replacement of equipment containing PCBs, capping of abandoned wells, and wastewater management. To minimize the impacts of departmental projects on the environment and to ensure compliance with the *Canadian Environmental Assessment Act*, the Department carries out environmental assessments for projects for which it has decision-making responsibility. This work includes quality monitoring of environmental assessments, training, and the development of guidance materials.

Wastewater effluent from AAFC facilities must be managed in a sustainable manner, meeting or exceeding the established standards or requirements of any federal or provincial regulatory agency. Work is under way to complete audits of 19 main laboratory complex sites and, based on the information obtained, to develop and implement wastewater management plans for each facility. Where possible, AAFC will adopt a systems approach that links water quality and conservation to treatment, so that information on consumption can inform decisions and costs of water treatment at intake and output.

Most of AAFC's farm and pasture operations have storage tanks for refuelling on-road fleet and farm equipment and storing waste oil and

Swift Fox Recovery in Community Pastures

After the Swift Fox disappeared from the Canadian Prairies in the late 1920s, this species was reintroduced at several sites on AAFC–PFRA community pastures in southwestern Saskatchewan. These pastures retained large tracts of natural habitat in the fox's former range. A recent winter census (2005–2006) revealed that community pastures along the American border are important habitat for this species and rank near the top for Swift Fox occurrences. Today, the Swift Fox is well on its way to re-establishment in Canada, due in part to the long-term sustainable land management practices of AAFC–PFRA Community Pastures.

chemicals. The Department aims to meet or exceed federal environmental legislation, regulations, and policies for these tanks. To date, most underground storage tanks on AAFC properties have been located and replaced by above-ground models, which are easier to monitor for leaks. An ongoing management program ensures the proper installation, monitoring, and appropriate replacement of storage tanks as they reach the end of their useful life.

Over the years some farms and their associated water wells on the Prairies have been abandoned and incorporated into the AAFC–PFRA Community Pasture Program. Over the course of this strategy, many of these wells will be located and decommissioned to appropriate standards.

All AAFC-owned and -operated facilities are currently being audited for PCBs. Work is in progress to virtually eliminate all oil-filled equipment containing PCBs, decommission all existing PCB storage facilities, and eliminate all PCBs in storage.

Conservation

Water, paper, and energy are key resources that federal departments use in their everyday work. Making more efficient use of water and paper cuts down on waste and reduces cost. Energy efficiency measures help conserve energy and reduce greenhouse gas emissions. Conservation efforts also apply to natural resources on AAFC lands, including biodiversity. The aim of these conservation measures is to enable the Department to reduce its "ecological footprint," taking less from the environment in terms of natural resources and putting less back in the form of waste and pollution. The Department has identified five high-priority areas that contribute to achieving this goal—management of species at risk, water management, green procurement, building energy efficiency (reduction of greenhouse gases), and fleet management—and will also pursue a number of ongoing programs.

Species at Risk

Agriculture and Agri-Food Canada aims to manage its rangeland in support of long-term productivity and healthy levels of biodiversity.

Species at risk (SAR) are an important part of this biodiversity, signaling healthy and functioning ecosystems. The Department plays a key role in protecting species at risk by

- carrying out SAR inventories;
- conducting SAR extension;
- implementing SAR recovery programs;
- participating in national SAR recovery planning;
- evaluating and promoting methodology for range and riparian health assessment;
- participating in a multi-stakeholder group to develop beneficial management practices for species at risk.

Water Management

The Department is working to conserve water and ensure its potability at departmental sites. Key activities are the acquisition and management of water data, and the implementation of recommended systems for water treatment and water conservation. Staff receive training in this area, and water conservation tips are circulated in the Department. Beneficial management practices are in development for all water systems, from intake to outlet.

Green Procurement

Agriculture and Agri-Food Canada is taking measures to reduce its consumption of resources and increase the use of environmentally responsible office products and practices. Examples include the use of default duplex double-sided printers and the monitoring of paper purchases and usage. Personnel receive green procurement training as needed. Such measures reduce the generation of waste; minimize environmental, health, and financial risks; and reduce costs.

Greenhouse Gas Reduction (Building Energy and Green Fleet)

Agriculture and Agri-Food Canada supports the Federal House in Order target for greenhouse gas emissions, aiming to reduce departmental emissions to 8.5 percent below expected emission levels for 2010 based on business-as-usual practices of 1998. To reach this target, the Department will continue to carry out energy efficiency upgrading in building infrastructure and explore new uses of renewable energy, including wind and solar energy.

Rejuvenation and right-sizing of the vehicle fleet, including the use of electric off-road vehicles, have improved fleet efficiency. Use of the Fuel Management System is helping AAFC keep better records of fleet fuel consumption and reduce fuel needs. The Department is committed to using the biofuel E-85 and continues to install biofuel refuelling centres at AAFC sites across the country. It also offers training and awareness activities to employees, including Green Defensive Driver Training and a national anti-idling campaign.

Other Ongoing Activities

Environmental Farm Plans (EFPs) are voluntary self-assessment tools used by producers to identify environmental risks and opportunities related to their operations. At AAFC, EFPs are being developed for community pastures and research sites to serve as a tool to manage the local environmental impacts of operations. Once plans are completed, action plans will be developed to address the issues raised.

Agriculture and Agri-Food Canada is also working to reduce the amount of solid waste it produces by promoting reduction, reuse, and recycling of materials. Although most leased office space in major urban centres has some level of recycling, recycling services are not always readily available to custodial sites in smaller municipalities and rural areas. In the previous strategy, the Department launched an audit-based solid waste program at major facilities, including elaboration and implementation of waste reduction plans and performance reporting tools. This program will continue, as not all activities could be completed during the previous strategy period.

Greening AAFC's Operations
Targets and Performance Indicators

TARGET	PERFORMANCE INDICATOR
Contaminated Sites	
Completion of third-party Phase I Environmental Site Assessments (ESAs) by 2009 at all AAFC research properties with potential for contamination.	Number and % of third-party Phase I ESAs completed at research properties with potential for contamination per approved plan.
Halocarbon Management	
Up-to-date inventory of equipment and refrigerants (annual).	Inventory verified and updated each year.
Halocarbon management and compliance program delivered (annual).	Plan delivered per schedule each year (reporting of releases, site visit reports and follow-up annual report).
Species at Risk	
Assessment of research and rangeland sites for potential or actual presence of species at risk (SAR) and SAR habitat by 2009.	Number and % of Community Pasture SAR and SAR habitat assessments completed.
Completion of a management plan for each research site with high SAR/SAR habitat potential by 2009.	Number and % of management plans completed.
Water Management - Water Quality/Conservation	
Implementation of a departmental potable water quality management plan by 2009.	Number and % of sites with a potable water quality management plan in place.
Implementation of a departmental water management plan that addresses both water quality and water conservation by 2009.	Number and % of sites with water management plan in place.
Green Procurement	
A 10% per year increase in the number of duplex printers in operation across the Department.	Number and % of additional duplex printers in use.
Reduction of 3% per year in paper consumption at the NCR Headquarters facility.	Change in volume of paper used compared to baseline.
Inclusion of green technical specifications where possible in building cleaning contracts for facilities, e.g. use of green products/practices (annual).	Number of contracts considered and number where green specifications included.
100% of new materiel managers and procurement officers receive procurement training, either through the TBS Professional Development and Certification program or other green procurement course offerings. Note: AAFC has already trained existing contracting staff as of 2005 (annual).	Number and % of staff who have received training.

Greening AAFC's Operations
Targets and Performance Indicators (continued)

TARGET	PERFORMANCE INDICATOR
Energy	
Reduction of the department's overall greenhouse gas emission levels accounted for by operations to 8.5% below 1998 business-as-usual levels by 2010.	AAFC's annual greenhouse gas emission level, calculated using recorded quantities of annual energies consumed within AAFC buildings and fleet and the Federal House in Order published greenhouse gas conversion factors for all energy types.
Vehicles	
All gasoline purchased for federal road vehicles to be ethanol blended, where available by 2010.	% AAFC road vehicles that are ethanol blend-compatible.
Reduction of the greenhouse gas emissions per vehicle kilometre of the departmental fleet to 15% below 2002-2003 levels by 2010.	Estimated annual average GHG emissions per vehicle/kilometre.

6. Performance Measurement and Accountability

An essential aspect of the process of sustainable development is the ability to assess whether we are moving in the right direction and making good progress. Outlining our commitments and performance indicators gives the Department something to work toward and also establishes guideposts against which progress can be measured. It provides a tool for measuring performance, maintaining accountability, and making adjustments along the way as needed.

Logic Models

The Agricultural Policy Framework (APF) served as the core of AAFC's SDS III and continues as the core of this strategy. In SDS III, logic models were presented for each APF element – environment, food safety and quality, renewal, science and innovation, business risk management – as well as international. These logic models outlined a logical sequence of results that could be expected to lead to the intended sustainable development outcomes. The logic models and the performance indicators within them are part of the Department's performance measurement strategy for the APF.

Because the APF runs until 2008, the logic models presented in SDS III are still relevant to this strategy. Thus, what follows is a visual summary of the original logic models. The new direction of this strategy – better integration of the three pillars of sustainable development in the work of AAFC – is captured in a logic model that presents outcomes and performance indicators for the integration initiatives described in Chapter 4.

SDS-III Performance

Annex B outlines the Department's achievements for each element of the APF in relation to the deliverables from SDS III. It also charts the work planned for each of these areas. The Department's progress against the commitments presented in the APF logic models is also summarized annually in AAFC's Departmental Performance Report. As well, signatories to the APF agreement agreed to report annually on progress under the APF. These two reporting vehicles will provide summary information on how well the Department is doing in meeting its SDS and APF commitments, and thus whether satisfactory progress is being made toward sustainable development. Annex C reports on the progress AAFC has made on the commitments outlined in SDS III related to greening its operations.

For the fourth round of sustainable development strategies, the federal government has worked to develop a set of six sustainable development goals related to Clean Air, Clean Water, Reduced Greenhouse Gas Emissions, Sustainable Development and Use of Natural Resources, Sustainable Communities, and Governance for Sustainable Development. These goals integrate and complement the objectives set earlier this year with respect to greening government operations. By identifying how departmental activities support broader federal goals and objectives for sustainable development, it is hoped that Canadians will gain a clearer picture of how the federal government's ongoing work to improve our quality of life. At the same time, improved coordination will strengthen accountability, encourage better performance across the government, and focus and stimulate activities in key areas.

Agriculture and Agri-Food Canada has identified a number of activities related to the delivery of its mandate that support progress toward achieving the federal sustainable development goals. These activities and commitments are identified in this strategy.

More information on the federal sustainable development goals and on work to green government operations is available online at www.sdinfo.gc.ca.

Overview of APF Logic Models

AGRICULTURAL POLICY FRAMEWORK (APF) VISION

The objective of the APF is to make Canada the world leader in food safety, innovation, and environmentally responsible production.

AAFC STRATEGIC OUTCOMES

HEALTH OF THE ENVIRONMENT	*SECURITY OF THE FOOD SYSTEM*	*INNOVATION FOR GROWTH*
Making Canada the world leader in using environmental resources in a manner that ensures their quality and availability for present and future generations. • **Environment**	Making Canada the world leader in producing, processing and distributing safe and reliable food to meet the needs and preferences of consumers. • **Food Safety and Quality** • **Business Risk Management** • **International**	Making Canada the world leader in innovation to develop food and other related agricultural products and services that capture opportunities in diversified domestic and global markets. • **Renewal** • **Science and Innovation** • **International**

DEPARTMENTAL PRIORITIES

ENVIRONMENT	*FOOD SAFETY AND QUALITY*	*RENEWAL*
Achieving environmental sustainability in the sector and progress in the area of soil, water, air, and biodiversity.	Minimizing the risk and impact of food-borne hazards on human health, increasing consumer confidence, and improving the sector's ability to meet or exceed market requirements for food products.	Equipping the sector with new business and management skills, bioproducts, knowledge-based production systems, and strategies to capture opportunities and manage change.
SCIENCE AND INNOVATION	*BUSINESS RISK MANAGEMENT*	*INTERNATIONAL*
Equipping the sector with new business and management skills, bioproducts, knowledge-based production systems, and strategies to capture opportunities and manage change.	Changing producers' capacity to manage risk and increasing the sector's viability and profitability.	Expanding international opportunities for the Canadian agri-food sector.

A snapshot of performance measures for these departmental priorities is provided in the following pages. More information on the results-based logic models can be found in AAFC's third SDS "Sustainable Agriculture: Our Path Forward", available online at http://www.agr.gc.ca/sds-sdd/sds-sdd_e.phtml.

Snapshot of APF Results Chains — Environment

DELIVERABLES	PERFORMANCE INDICATORS	OUTCOMES
• Policy integration with Government of Canada environmental domestic and international policy priorities. • Alignment of federal and international policy and programs with APF. • Innovative environmental technologies assessed and refined for use by agricultural producers and agri-businesses. • National Agri-Environmental Health Analysis and Reporting Program (NAHARP). • NAIS – knowledge and capacity development. • National Standards developed to be used to measure agricultural producers contribution to environmental sustainability. • New knowledge, tools, and processes in: - soil assessment, use, and health; - water quality and quantity; - air quality; - biodiversity; - integrated pest management. • Environmental Technology assessment for Agriculture (ETAA). • National Land and Water Information Service (NLWIS). • Environment Farm Plan Program. • Beneficial Management Practices (BMPs). *continued next page*	• AAFC environmental policy aligns with federal government, domestic, and international policies. • Number of collaborative agreements with partners to assist in establishing national standards. • Number of new scientifically validated reports, maps, data bases and interpretive web products for on-farm use and for use by AAFC (e.g., National Land and Water Information Service, NAHARP, NAIS, and NCGAVS). • Degree of involvement with partners and OGDs in development of agri-environmental indicators. • Number of new BMPs available for use by agricultural producers. • Number of innovative environmental technologies assessed for use by agricultural producers. • Number and quality of methods, technologies, products, and information for: - soil assessment, use, and health; - water quality and quantity; - air quality; - biodiversity; - integrated pest management. • Number of assessments of innovative environmental technologies completed. *continued next page*	• Improved stewardship by agricultural producers of soil, water, air and biodiversity. • Increased adoption of environmentally beneficial management practices by agricultural producers in the management of land, water, air and biodiversity. • Increased adoption of new technologies, practices and / or processes by agricultural producers that aid in reducing agricultural risks and increasing environmental benefits. • Conversion by agricultural producers of environmentally sensitive crop land to perennial cover. • Adoption of shelterbelts by agricultural producers. • Improved capacity for agricultural producers of land and water information databases across Canada by the federal government and its partners. • Producers identified for accelerated environmental action, complete Environmental Farm Plans and /or Equivalent Agri-Environmental Plans. • Provincial agricultural land scans.

Snapshot of APF Results Chains — Environment (continued)

- Greencover Canada (GCC).
- National Water Supply Expansion Program and Rural Water (NSWEP).
- Special Water Projects.
- Prairie Shelterbelt Program.
- Action Plan 2000 on Climate Change (AP2000) – Shelter Enhancement Program (SEP).

- Availability of National Land and Water Information Service to stakeholders.
- Number of provinces with EFP programs that meet the national model.
- Number of publications, training, and demonstrations of BMPs.
- Number of applications approved to: convert environmentally sensitive cropland to perennial cover, improve riparian areas, and establish shelterbelts.
- Number of water projects approved.

Snapshot of APF Results Chains — Food Safety and Quality

A National Integrated Agri-Food Safety and Quality System

- A decision-making framework for food safety issues in Canada is developed and implemented by federal, provincial, and territorial governments.
- A federal, provincial, and territorial policy framework for food safety and food quality in Canada is developed.
- Incentive measures to encourage the development of specific strategic elements of this national food safety and quality strategy by industry are developed and implemented.

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A National Integrated Agri-Food Safety and Quality System

- Number of governments that agree to implement the decision-making framework.
- Policy documents on animal health, animal welfare, traceability, and food quality developed and shared with governments, industry, and stakeholders.
- Policy document on risk-based approach to incentive measures developed and shared with industry.
- Number of HACCP based systems developed by industry.

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- Protection of human health by reducing exposure to hazards.
- Consumer confidence in the safety and quality of food produced in Canada.
- Industry's ability to meet or exceed market requirements for agri-food safety and quality.
- Value-added opportunities through the adoption of food safety and food quality systems are being captured.
- National integrated food safety and quality system is enhanced.
- Innovative technologies and processes that contribute to safer and higher quality food products are adopted by industry.

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Snapshot of APF Results Chains — Food Safety and Quality (continued)

Innovative Technologies and Processes that Contribute to Safer and Higher Quality Food Products

- Methods to detect, characterize, and control food safety hazards on the farm and throughout the food production systems are developed and shared with the industry.
- Knowledge and strategies to enhance food quality to meet consumer expectations.
- Knowledge to enhance and preserve the nutritional value throughout the food chain.
- Knowledge base in support of the development of functional foods and nutraceuticals in Canada.
- New processing platform technologies to improve production efficiency and deliver safe, nutritious, and quality food to consumers.
- A plan to ensure the knowledge/tools/technologies developed are transferred to industry in a timely manner is developed and implemented by AAFC scientists.

Maintaining and Enhancing Confidence in Food Safety and Quality in Canada

- A strategy to communicate the progress made by governments and industry on food safety and quality so as to increase Canadian consumers' and foreign buyers' confidence in the safety and quality of the agriculture and agri-food products produced in Canada is developed and implemented.

Innovative Technologies and Processes that Contribute to Safer and Higher Quality Food Products

- Methods, knowledge/ strategies, technologies developed.
- Publication of results in peer-reviewed scientific journals.
- Presentation of results at conferences.
- Methods, knowledge/ strategies, technologies communicated/transferred to end users.
- Degree of adoption by industry of the knowledge/tools/ technologies developed.

Maintaining and Enhancing Confidence in Food Safety and Quality in Canada

- Communication products to target Canadian consumers and foreign buyers are developed and distributed in food fairs and international venues.
- Common understanding of the elements of our national food safety and quality system encourage all partners in the food continuum to play their part in the refinement of this system.

Snapshot of APF Results Chains — Renewal

Awareness Raising

- Raising awareness of Renewal programming (Renewal website).
- Creating greater awareness of advisory services in the private sector (CFBAS).
- Improving access to best practices information, networks, and mentoring, in order to change attitudes and behaviours regarding advice and business planning.

Benchmarking

- Making benchmark, management, and marketing information available to assist farmers in enhancing their profitability (Benchmark website)

Farm Business Advisory Services

- Enhancing and improving access to public and private management and consulting services providing business and succession information, using contracted expertise or public expertise, or any combination thereof, to deliver services (CFBAS).
- Developing options to respond to situations where farmers may not otherwise qualify for, or be adequately covered by, risk management programs (financial assessments, action plans).
- Making a follow-up service available to assist farmers in making decisions on their future (CFBAS follow-up service).

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Awareness Building

- Creation, production, and distribution of a document outlining the skills, attitudes, and practices of the top 20 percent of Canadian farms, by region and farm type.
- Number of farmers who are active members of mentoring and/or peer groups, management clubs, syndicates, farmer-directed groups, etc.

Benchmarking

- Number of benchmark studies and market information products developed during the assessment time period

Farm Business Advisory Services

- Availability of a network of advisory services.
- Number of clients per target group accessing advisory and/or information services.
- Number of farmers who have assessed their financial situation.
- Development of options for beginning farmers, farmers with exceptional or recurring losses, and farmers who may not benefit from new risk management programs.

Capturing Opportunities

- New knowledge on the role of networks, value chains, and the internet being used by industry and rural communities to accelerate the adoption of science and innovation.

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- Farmers are successful farm operators.
- Farmers increase their profitability.
- Farmers make choices about sources of income.
- Farmers meet market and consumer demands respecting foods safety and food quality and environmentally responsible production.
- Farmers capture opportunities from science and innovation.
- Farmers recognized for excellence in innovation and risk management.
- Farmers are adopting:
  - Strategic planning;
  - Innovation; and risk management;
  - Diversification of income sources;
  - Marketing;
  - Benchmarking;
  - Business, venture, and succession planning;
  - Financial, human resource, and technology management;
  - Lifelong learning;
  - Monitoring advances in science;
  - Feasibility analysis;
  - Networking.

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Snapshot of APF Results Chains — Renewal (continued)

Capturing Opportunities

- Supporting and developing networks relating to scientific advances so as to create new economic opportunities for farmers.
- Promoting research to increase the transfer of technology resulting from advances in science and innovation.
- Improving the dissemination of information relating to science and innovation.
- Establishing or further developing programs, such as CFBAS's specialized services or PAVE, to foster new economic opportunities through to commercial feasibility.

Skills and Development

- Promoting learning opportunities in business management, environmental management, food safety and food quality.
- Providing access to training and support programs for farmers who, in their pursuit of off-farm options, choose to further develop and apply their skills to other career-related activities (AEP).
- Establishing a joint public and private process to develop a consensus on the type of skills that are needed for future development of the agriculture sector where such a process does not already exist (Advice to HRDC on sector council).

Access to Capital

- Improving access to, and awareness of, services that assist farmers in securing financing for farms and other agri-business ventures (CFBAS, PAVE).
- Encouraging private investors to engage in farm and other agri-business opportunities.

Skills and Development

- Number of farmers and their spouses who participate in a skills assessment and/or in the development of an individual learning plan.
- Number of farmers and their spouses who undertake learning activities to upgrade management and technical skills and enhance skills applicable to on-farm ventures or off-farm income.
- Establishment of a mechanism to identify the skills and corresponding training needs for the development of the sector.

Access to Capital

- Report on the number of dollars provided through government and private capital suppliers for agriculture and agri-business opportunities.
- Number of farmers who use CFBAS specialized services and PAVE.

- Farmers are improving their ability to make choices:
  - Beginning farmers acquire the requisite skills, knowledge, tools, and risk management opportunities to be successful farm operators;
  - Farmers upgrade management and technical skills, particularly as these relate to environmental management, food safety and food quality, new products and market, and science and innovation;
  - Farmers choosing to pursue alternative income opportunities develop the requisite skills to do so;
  - Farmers assess the performance and potential profitability of their farm business, enhance their ability to make business management decisions, and explore and develop market opportunities;
  - Farmers are aware of and engaged in renewal.

Snapshot of APF Results Chains — Science and Innovation

- Policy, regulations, and processes to create an innovative climate for various stakeholders.
- Innovation Strategy Program.
- Training, recruitment, and retention of graduate students, post docs, and other hires.
- Various agreements, Memoranda of Understanding, co-locations, co-sponsorships, collaborations, international committees, standards, and the Matching Investment Initiative are aimed at public and private sector organizations, associations, and institutes.
- Protection of IP (patents, designs, processes, or systems) is intended to benefit Canada's innovative community (such as tech transfer offices).
- Publications and reviews (of or in refereed journals, books, chapters, investigative or unpublished reports, proceedings), presentations (conference presentations, symposia (national or international) are intended to share knowledge with the scientific community.

- Levels of investment by the Parties, academic institutions, and industry in science and innovation in the priority areas and in bio-products.
- Increase in the number of highly skilled science professionals.
- The number of collaborative arrangements based on science and innovation across the value chain.
- The number of publications, licensing agreements and patents awarded in the agriculture and agri-food sector.

- Attracting public and private sector investors from Canada and elsewhere.
- Benefits accrued to all stakeholders, from basic researchers to suppliers, producers and consumers.

Realigning Public Science Resources:

- Parties, academic institutions, and industry to realign and increase investments to support science and innovation in the priority areas, as well as in biomass, bioproducts, and bioprocess research.
- Increase the level of investment in innovation in agricultural and bio-products from non-agricultural sources (such as investors) within Canada and elsewhere.

Creating an Innovation Climate:

- Accelerate the development and adoption of innovations in the agriculture and agri-food sector (while maintaining and effective science-based and transparent agriculture and agri-food system).
- Better utilize intellectual property from publicly supported research to enhance the growth of the agriculture and agri-food sector.
- Target secondary and post-secondary institutions to ensure that the human resources and infrastructure needed for science and innovation in the agriculture and agri-food sector are available in Canada.

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Snapshot of APF Results Chains — Science and Innovation (continued)

Coordinating Along the Whole Value Chain:

- Expand and strengthen linkages across the value-chain and between the agriculture and agri-food sector and the science and innovation community, both within Canada and internationally.

Improving technology transfer, coordination, communication, and collaboration across market, policy, and scientific disciplines, research organizations, and throughout the value-chain is intended for all stakeholders.

Snapshot of APF Results Chains — Business Risk Management

- Improve the tools available to producers for the purpose of managing business risk (Framework Agreement 15.1.1)
  - Redesigned NISA:
    - CAIS: income stabilization with on-going and predictable disaster program;
    - CAIS: streamlined application process for farmers;
    - Linkages between CAIS and Production Insurance.
  - Production Insurance:
    - Expanded coverage (more commodities);

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- Availability of programs across Canada (program options available in each province)
  - CAIS coverage options;
  - Production insurance schemes;
  - PSRMP initiatives;
  - Investment initiatives;
  - Options in lending programs.
- New programs or new program features are effective:

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- Increased producers' capacity to manage business risks.
- Increased sector viability and profitability.
- Increased utilization of risk management tools.
- Increased in farmers' investments.
- Increased participation to programs that help mitigate risks faced by the sector.

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Snapshot of APF Results Chains — Business Risk Management (continued)

- -Broader range of program choices.
- Private Sector Risk Management Partnerships (PSRMP):
  - -Business Interruption Insurance;
  - -Funds commodity or farm groups to develop business case for specific line of insurance by potential insurers.
- Redesigned Cash Advances Program.
- Investments program.
- Redesign FIMCLA program.
- Realign SCAP and AMPA with APF objectives.

- Information session and information packages on new BRM programs and services.
- Signed MOUs/contracts/ agreements with partners and co-deliverers.
- Assessment of programs under Business Risk Management priority.
- Assessments of the impacts of emergencies to ensure that AAFC and other departments consider the special needs of the agriculture and agri-food sector with respect to emergencies management.
- Reports from annual reviews of policies and programs
  - Analysis of gaps in BRM tool sets and individual programs;
  - Recommendations to Minister in order to continuously improve BRM policy and programs;
  - Recommendation to redesign policy and programs, in consultation with stakeholders (provinces, industry).
- FIPA legislation updated.

- New options defined along with targeted reach (acreage or value of production);
- Sound production insurance and actuarial standards are effectively implemented in all new production insurance schemes;
- Linkages between Production Insurance and CAIS are effective;
- Improvements to lending programs;
- New or improved programs for emergency management.

- Value of overlap in program payments eliminated as a result of linkages between CAIS and Production Insurance.
- Number of information sessions by program.
- Number of information packages, handbooks distributed by program.
- Progress on signing of agreements and program implementation:
  - Number of provinces / territories who signed framework agreements;
  - Number of provinces / territories who signed implementation agreements;
  - Number of MOU/contracts signed with industry organizations or third party delivery for specific programs.
- Assessment and Review reports completed on time.
- New FIPA legislation in place.

- Targeted producers participate in PSRMP to mitigate risks of business interruption and to have access to new private risk management tools interruption and to have access to new private risk management tools.
- Targeted producers participate in Production Insurance programs to mitigate production loss risks.
- Targeted producers participate in CAIS program to mitigate income loss risks.
- Targeted producers participate in lending program to ease cash-flow issues.
- Targeted producers participate in programs that address emergencies.

- Stakeholders understand and accept the importance of being pro-active in managing their business risk.
- Produces are aware of risk management programming and how the elements work together.

Snapshot of APF Results Chains — International

Gaining recognition and building markets:

- Branding campaign.
- Canada's reputation benchmarked.
- Strong industry/government partnerships through value-chain roundtables.
- Partnerships with national and international development agencies in key emerging markets to gain recognition of brand Canada.
- Increase foreign market services to Canadian industry, including:
  - Trade and investment promotion, missions to other countries;
  - Technical marketing assistance (e.g. CIGI, CMBTC, VCEN);
  - Export counselling, workshops, seminars an training.
- Integrated legislative and policy framework.
- Market research reports, trade data/database, country profiles, market overview, studies on investment opportunities and issues for the industry.

Improving market access:

- Strong network in place to support international advocacy activities domestically and internationally.
- Canada-Chile Free trade Agreement, Canada-Costa Rica Free Trade Agreement an WTO CoA implemented.

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Gaining recognition and building markets:

- Number of strategic partnerships.
- Client satisfaction.
- Number of requests for services.
- Number events, missions.
- Number and value of technical assistance projects.
- Number of sessions, workshops, seminars, and training.
- Number of reports, publications.

Improving market access:

- Number of potential allies identified.

Overcoming technical barriers:

- Number of litigations.
- Number of agreements.
- Number of trade issues advanced/resolved.

Enhancing international development

- Number and value of international assistance projects.
- Number of market opportunities identified.

- Increased exports of Canadian agriculture and agri-food products.
- Increased domestic market share of Canadian agriculture and agri-food products.
- Increased domestic and foreign investment in Canada's agriculture and agri-food sector.
- Increased influence in the development of international technical standards and policies.

Gaining recognition and building markets:

- Increased recognition of Brand Canada in targeted markets.
- Joint industry-government Brand Canada marketing and communication campaign implemented.
- Industry engagement in strategy development, including Brand Canada strategy.
- Increased awareness of global market demands and opportunities by industry and government.
- Investment climate and services that attract and retain investment commensurate with supply capacity.
- Integrated sector capability to respond to market demands for safety, quality, environmental responsibility.

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Snapshot of APF Results Chains — International (continued)

- Communications to stakeholders to raise awareness of negotiating process.
- Other countries' position analyzed and potential allies identified.
- MOU with DFAIT to deploy additional in-market trade and technical specialist.

Overcoming technical barriers:

- Favourable rulings on legal actions taken against Canada.
- Agreements between countries to eliminate/ reduce market barriers and reduce foreign agricultural tariff reductions.
- Improved market access protocol (MAP) negotiating capacity.
- Trade and policy advice on technical trade issues in response to emerging technical trade issues to be disseminated to domestic stakeholders.
- Articulate Canadian position in Multi-lateral technical fora.

Enhancing international development

- International technical assistance projects advanced, e.g., PFRA/CIDA projects in Egypt, Ethiopia, and China.
- New assistance projects developed, approved, and ready for implementation.
- International development strategy.
- Potential market opportunities identified.
- Sector market strategies increase recognition of enhanced capabilities.
- Market policy environment that supports sustainable sector value chain development.

Improving market access:

- Foreign countries are committed to open markets and reduction of trade distorting domestic support in other countries.

Overcoming technical barriers:

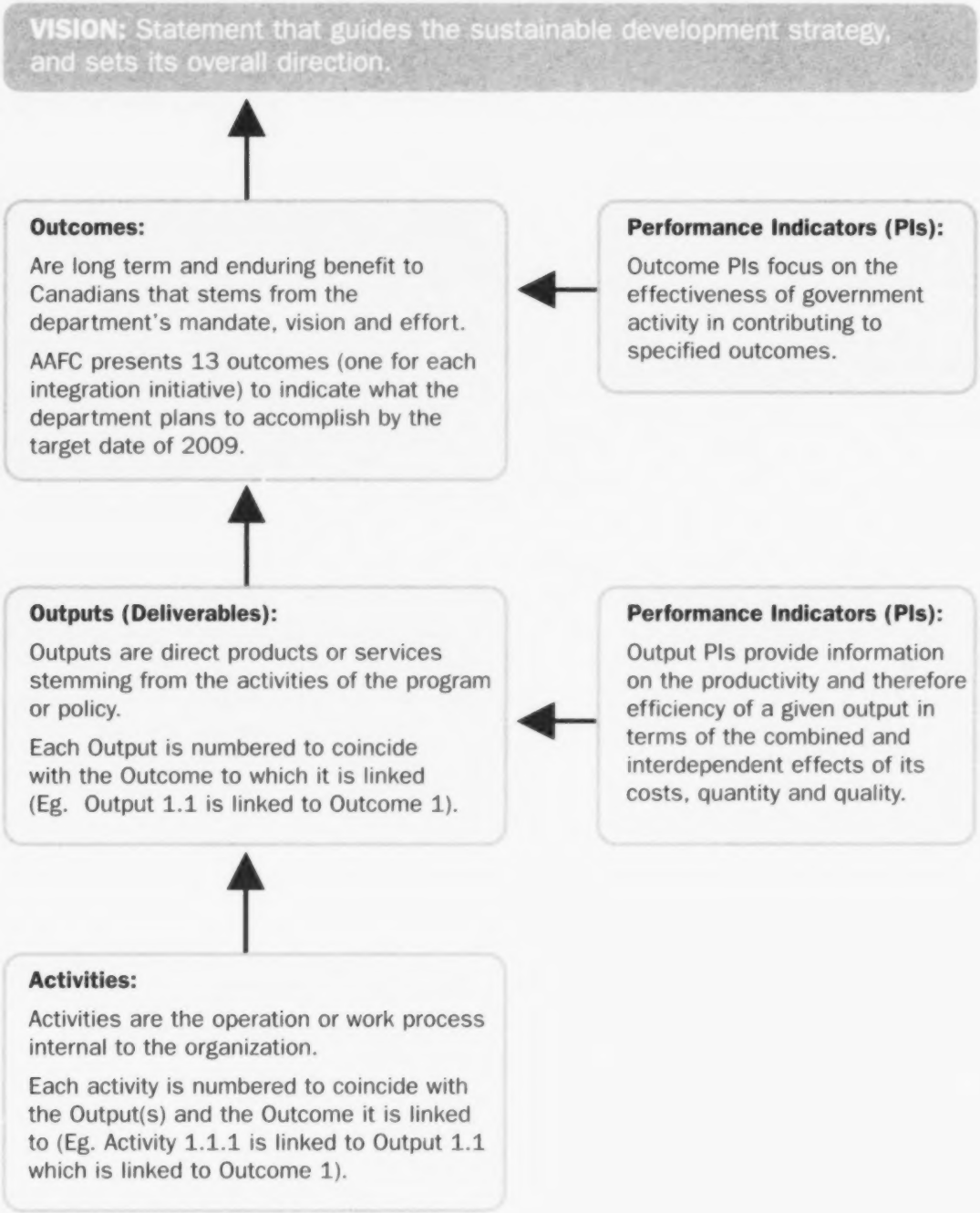
- Efficient resolution of technical market access barriers.
- Multilateral standards influenced in line with Canadian priorities.
- Market Access protocols (MAPs) negotiated with key trading partners.

Enhancing international development

- Increased participation by developing countries in trade negotiations.
- Increased developing countries' capacity in agriculture in line with APF priorities.

AAFC's Logic Model for Integration Initiatives

This diagram provides a visual representation of the logical sequence of results AAFC plans to achieve from activities to outputs and outcomes for the integration initiatives.


VISION: Statement that guides the sustainable development strategy, and sets its overall direction.
Outcomes:
Are long term and enduring benefit to Canadians that stems from the department's mandate, vision and effort.
AAFC presents 13 outcomes (one for each integration initiative) to indicate what the department plans to accomplish by the target date of 2009.
Performance Indicators (PIs):
Outcome PIs focus on the effectiveness of government activity in contributing to specified outcomes.
Outputs (Deliverables):
Outputs are direct products or services stemming from the activities of the program or policy.
Each Output is numbered to coincide with the Outcome to which it is linked (Eg. Output 1.1 is linked to Outcome 1).
Performance Indicators (PIs):
Output PIs provide information on the productivity and therefore efficiency of a given output in terms of the combined and interdependent effects of its costs, quantity and quality.
Activities:
Activities are the operation or work process internal to the organization.
Each activity is numbered to coincide with the Output(s) and the Outcome it is linked to (Eg. Activity 1.1.1 is linked to Output 1.1 which is linked to Outcome 1).

Logic Model for Integration Initiatives

This logic model outlines AAFC's commitments for the Integration Initiatives with a target completion date of December 2009 for each outcome. The logic model was developed following AAFC's performance measurement practices to ensure a logical sequence of results from activities to outputs and outcomes.

VISION FOR INTEGRATION INITIATIVES

Enhanced Integration of the Three Pillars of Sustainable Development: Environmental, Social and Economic

There are eight Integration Initiatives that contribute to our vision by addressing the pillars of sustainable development (SD).

1. **The Next Generation of Agricultural Policy**
2. **Canadian Rural Partnership (CRP)**
3. **Agricultural Bioproducts Innovation Program (A.B.I.P)**
4. **Sustainable Development Awareness Building**
5. **Information and Tools**
   - A. Strategic Environmental Assessment (SEA)
   - B. Integrated Economic/Environmental Modelling and Analysis (IEEMA)
   - C. Agri-Environmental Valuation (AEV)
   - D. Social Indicators (SI)
6. **Research - Model Farm Research Program (MFRP)**
7. **Work with Sector to Apply and Perfect Integrated Approaches**
   - A. Ecological Goods and Services Policy (EG&S Policy)
   - B. Integrated Water Resources Management (IWRM)
8. **Programs**
   - A. Co-operative Development Initiative (CDI)
   - B. Canadian Farm Families Options Program (CFFOP)

OUTCOMES (TARGET COMPLETION DATE - DECEMBER 2009)	PERFORMANCE INDICATORS
1. The Next Generation of Agricultural Policy is in place and operational.	• The number of new policy, programs and research initiatives that consider the three pillars of Sustainable Development as determined through application of the SD Test Questions. • A suite of policy, program, and research activities in place to support the objectives of the next generation of agricultural policy. • Number of stakeholders (both internal and external) from various disciplines involved in the development of the next generation of agricultural policy.
2. Government policies, programs, and services increase opportunities for, and mitigate barriers to, sustainable rural community development.	• Percentage of federal policies and programs that consider the rural perspective. • Number of partnership plans with key federal, provincial, territorial, and First Nation partners. *continued next page*

OUTCOMES (TARGET COMPLETION DATE - DECEMBER 2009)	PERFORMANCE INDICATORS
	• Percentage of departments and agencies reached through federal engagement strategy activities including: Rural Teams, Rural Research Network, Rural Development Network.
3. Increased value-added opportunities for the agri-food sector from innovative use of agricultural bioresources as a result of R&D, technology transfer, and commercialization network activities.	• Increased knowledge and technological advances produced by ABIP networks with the potential to strengthen Canada's industrial base and generate wealth. • Increased number of effective networks/clusters involving Canadian-based researchers. • Improved transfer of knowledge, technology, and expertise to organizations that can commercialize these innovations. • An ABIP that considers each of the three pillars of SD.
4. Sustainable Development (SD) is integrated into the departments decision making and AAFC's fourth SDS is utilized and applied by AAFC employees and external stakeholders.	• Increased awareness of sustainable development (SD) within the Department. • Each pillar of SD is taken into consideration together and not in isolation through the application of the SD Test Questions.
5. Information and Tools: A. Environmental considerations are incorporated into the development of public policies at AAFC on the same level as economic and social considerations.	• Percentage of new policies, plans, and programs that have gone through the SEA process. • The results of SEAs are accurately reported on in all MCs and TB submissions. • Increased knowledge of the SEA requirement and its application in the Department.
B. Models inform the ongoing policy decision making process for priority agricultural issues by providing integrated quantitative analyses of the economic and environmental impacts.	• An improvement in the capacity to predict environmental impacts from agriculture resulting in informed decision-making with respect to agricultural policies and programs that are consistent with both economic and environmental objectives. • Number of requests for integrated analyses and incorporation of results into the policy decision making process. • The development of the integrated modelling system considers all three pillars of SD (particularly the economic and environmental pillars). *continued next page*

OUTCOMES (TARGET COMPLETION DATE - DECEMBER 2009)	PERFORMANCE INDICATORS
C. Initial research is conducted and measures are in place to determine economic values corresponding to bio-physical changes in the environment resulting from agriculture.	• Number of stakeholders (both internal and external) from various disciplines involved in the development of AAFC economic valuation studies. • Increased public awareness of the need for, and the practical application of, environmental valuation. • Number of estimated economic values assigned to environmental effects of specific agricultural practices at specific locations in Canada.
D. A suite of social indicators is in place to help monitor and assess trends of social issues affecting the agriculture sector and to inform decision making.	• The successful development of a defined social dimension of sustainable agriculture. • Number of links established between social issues affecting the agriculture sector and related economic and environmental issues. • Number of methods available for sharing information on social issues affecting the agriculture sector.
6. Research: To increase carbon sequestration in agricultural soils, reduce GHG emissions per unit of production, and enhance the synergy between agriculture and the environment.	• Improved communication between researchers, policy makers, and producers, by demonstrating an increase in the use of AAFC's GHG calculator for evaluating innovative technologies. • Number of confirmed contribution of the program to various offset system pilot projects. • Enhanced integration of the three pillars of SD by identifying and promoting farming practices that consider all three pillars of sustainable development.
7. Work with sector to apply and perfect integrated approaches:	
A. The development of the National EG&S Policy Framework benefits from research gathered through EG&S policy pilot projects and through other research initiatives.	• An EG&S policy framework that is science-based will have measurable outcomes for evaluation. • An EG&S policy framework that considers each of the three pillars of SD, through application of the SD Test Questions, is in place.
B. Increased adoption of, and support for, applying an IWRM approach to watershed planning and management activities that will improve the protection of water quality from agriculture impacts, secure water supplies for agricultural needs, and consider the three elements of sustainable development.	• Percentage of transferable tools, knowledge activities, and instruments that support IWRM and decision-making. • Percentage of watershed planning and management activities that apply the IWRM approach to managing resources in watersheds. • Percentage of partners and watersheds with capacity -building or decision-making tools, plans, and instruments that consider the three elements of sustainable development. *continued next page*

OUTCOMES (TARGET COMPLETION DATE - DECEMBER 2009)	PERFORMANCE INDICATORS
8. Programs	
A. To develop new co-operatives that respond to the needs of citizens, and that fall into areas of federal priority.	• Percentage of co-operatives initiated in new and emerging areas of the economy. • Percentage of new co-operatives in areas of federal priority. • Percentage of new co-op funded projects within priority areas that integrate the three pillars of SD.
B. Low-income farm families have found ways to increase their family incomes.	• Increased on-or off-farm income for farm families. • Increased skills of farmers and farm families. • Enhanced integration of the three pillars of SD (particularly the social and economic pillars).
OUTPUTS (DELIVERABLES)	**PERFORMANCE INDICATORS**
The Next Generation of Agricultural Policy	
1.1 Develop policy documents.	• Quality of policy documents as determined by a qualitative assessment (from an SD perspective). • Number of policy documents that address the three pillars of SD.
1.2 Develop mechanisms to deliver next generation of agricultural policy with provinces and territories.	• Percentage of mechanisms or agreements implemented. • Number of mechanisms that address the three pillars of SD.
1.3 Develop programs and research activities to meet new policy objectives.	• Quality of programs and research activities as determined by evaluation (from an SD perspective). • Number of programs and research activities implemented that address the three pillars of SD.
Canadian Rural Partnership	
2.1 Analysis of policies, services, programs, and legislation for potential impact on rural communities and residents. *Linked to Federal Goal: 4.1.1*	• Number of analyses performed on federal policies, services, programs, and legislation. • Percentage of interdepartmental or intergovernmental working groups that Rural Secretariat staff contribute to. • Number of meetings of Rural Teams, including Rural Team Canada, Rural Research Network.
2.2 Development of a body of empirical evidence to support sustainable rural community development.	• Numbers of tools developed to support community decision-making. • A Community Information Database is in place.

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OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
Linked to Federal Goal: 4.2.1	• Number of collaborative rural research initiatives.
2.3 Communication, dialogue, and dissemination of research and knowledge to rural residents, communities, and other interested parties.	• Number of communication products and number of copies distributed. • Number of Rural Dialogue events and reports. • Number of dialogue events for key demographic sub-groups such as youth, seniors, women.
Agricultural Bioproducts Innovation Program (ABIP)	
3.1 Develop ABIP networks for collaboration among researchers.	• Number of funded networks, projects and participants. • Number of collaborative research and development agreements. • Number of contribution agreements.
3.2 Produce and disseminate scientific information to meet the needs of the bioproducts industry and government and Canada's socioeconomic development. *Linked to Federal Goal: 3.2.2*	• Number of funded networks, projects, and participants. • Number of collaborative research and development agreements. • Number of contribution agreements.
3.3 Develop highly qualified personnel.	• Number of undergraduate students, graduate students, postdoctoral fellows, scientists, and other trained professionals working on ABIP projects. • Number of research personnel retained in Canada due to networks. • Number of research personnel attracted to Canada from other countries due to networks.
3.4 Transfer technology and facilitate their exploitation by industry and government. *Linked to Federal Goal: 3.2.1*	• Number of patents (applications and issued) and other forms of intellectual property protection. • Number of license agreements and estimated licensing revenues generated by the networks. • Number of new or improved products, processes, and services resulting from the networks.
Sustainable Development Awareness Building	
4.1 Communication of SD and AAFC's fourth SDS. *Linked to Federal Goal: 4.3.1 & 5.2.1*	• Number of copies of AAFC's fourth SDS distributed to internal and external stakeholders. • Number of SD working group meetings held annually. • Quality of responses to information session evaluations.

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OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
	• Quality of the responses of a survey distributed to AAFC employees on knowledge of the three pillars of SD.
4.2 Development of promotional mechanisms on SD and AAFC's fourth SDS.	• Number of promotional mechanisms developed. • Number of promotional items distributed to AAFC employees. • Percentage of AAFC employees receiving promotional items. • Use of the promotional materials by AAFC. • Quality of the returned response cards for AAFC's fourth Sustainable Development Strategy.
4.3 The development of Sustainable Development Test Questions. *Linked to Federal Goal: 6.1.2*	• Number of responses to the test questions. • Quality of responses to the test questions. • Quality of the test questions based on the responses received.
4.4 AAFC will join with other government departments and the Canada School of Public Service to design and deliver new Government of Canada sustainable development training material. *Linked to Federal Goal: 6.1.1*	• Course is delivered in December 2007. • Percentage of AAFC managers registered in the course. • Quality of the course as determined by survey distributed at the course.
Information and Tools	
Strategic Environmental Assessment	
5A.1 Knowledge sharing and communication of the SEA requirement. *Linked to Federal Goal: 6.1.2*	• Number of AAFC employees informed of the SEA requirement by the SEA Coordinator through various mechanisms. • Number of presentations and memos prepared for senior management on SEA. • Number of SEA WG meetings held and email updates sent annually.
5A.2 Implementation of a system to track policy, plans, and program proposals subject to an SEA.	• Development of a tracking system that is fully functional according to schedule. • Percentage of policy, plan and program proposals, entered in the system annually that have a completed SEA. • Number of tracking reports provided to management.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
5A.3 Preliminary scans are conducted on all policy, plan, or program proposals by an AAFC policy analyst with guidance from the SEA Coordinator; detailed SEAs are conducted when required. *Linked to Federal Goal: 6.1.2*	• Number of preliminary scans and detailed SEAs completed. • Summary statements on SEA results are included in all MCs and TB submissions. • Timely feedback to policy analysts on preliminary scans to fulfill the SEA requirement.
Integrated Economic/Environmental Modelling and Analysis	
5B.1 Operational and documented analytical tools are used to prepare integrated quantitative assessments of both the economic and environmental impacts of existing and proposed agricultural policies and programs. *Linked to Federal Goal: 6.1.2*	• Development according to schedule of an enhanced, updated and tested version of the Canadian Regional Agricultural Model (CRAM) that is operational. • Percentage of agri-environmental indicators linked to CRAM. • Operationalization of an initial version of the Land Use Allocation Model (LUAM) for selected pilot regions according to schedule.
5B.2 Reports documenting the quantitative analyses of the economic viability and environmental sustainability of pertinent policy issues. *Linked to Federal Goal: 4.2.1*	• Number of requests for integrated economic/environmental analysis to feed into the policy development process, and number of analyses completed. • Number of responses to requests for integrated economic/environmental analysis. • Percentage of Strategic Environmental Assessments completed. • Number of reports prepared and published documenting analyses based on the integrated economic/environmental modelling system. • Qualitative assessment of the impact of integrated analysis on policy development.
Agri-Environmental Valuation	
5C.1 Develop a plan to communicate with stakeholders and increase the capacity for agri-environmental valuation research in Canada. *Linked to Federal Goal: 4.2.1*	• Communication plan developed and available. • Number of meetings of the Agri-Environmental Valuation Expert Committee.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
5C.2 Development of a mechanism to coordinate and fund a series of valuation projects.	• Mechanism in place to coordinate and fund Agri-Environmental Valuation projects. • Number of new Agri-Environmental Valuation projects funded per year.
5C.3 Implementation of valuation pilot studies addressing pre-selected agri-environmental (NAHARP) indicators.	• Number of new Agri-Environmental Valuation pilot studies using NAHARP indicators. • Percentage of pre-selected agri-environmental indicators (NAHARP) for which an AEV pilot study is in progress or has been completed (cumulative number).
Social Indicators	
5D.1 Identification of social issues affecting the agriculture sector.	• Quality of social issue descriptions as accepted by stakeholders. • Number of external stakeholder organizations that contributed to social issue identification.
5D.2 Development of indicators. *Linked to Federal Goal: 4.1.1 & 6.1.2*	• Number of indicators developed as determined by priority setting exercise. • Quality of indicators developed as determined by a qualitative assessment.
5D.3 Pilot Social Indicators projects.	• Number of pilot projects conducted according to schedule. • Percentage of successful pilot projects. • Utilization of the information generated from the social indicators.
Research—Model Farms Research Program	
6.1 Prepare a technical report titled "Greenhouse gases: Clues to more efficient farming systems in Canada" as a sequel to Health of Our Air.	• Publication, according to schedule, of a book that summarizes, in language accessible to the layperson, effective and environmentally conscious approaches to reducing greenhouse gas emissions from farms. • Number of requests for, and downloads of, the document and activity on the website.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
6.2 Develop and improve models and measuring technologies that more reliably quantify GHG emissions and/or soil C sequestration for promising BMPs in selected climates, geographical regions, and farming systems in order to enhance the synergy between agriculture and the environment.	• Publication, according to schedule, of a book that summarizes, in language accessible to the layperson, effective and environmentally conscious approaches to reducing greenhouse gas emissions from farms. • Number of requests for, and downloads of, the document and activity on the website.
6.3 A tool is developed that allows potential clients (e.g., scientists, policy makers, producers) to test how the adoption of certain practices might reduce GHG emissions per unit of production and increase soil C sequestration, thereby leading to more sustainable farming practices. *Linked to Federal Goal: 3.2.1*	• Number of times AAFC's GHG calculator is used in support of other programs. • Number of times AAFC's GHG calculator is accessed through the internet and other media.
Work with Sector to Apply and Perfect Integrated Approaches	
EG&S Policy Framework	
7A.1 Workplan projects are developed for the EG&S policy framework by AAFC analytical staff.	• Completion of EG&S policy research projects demonstrated by the number of papers in various stages of development. • Number of projects presented to federal, provincial and territorial (F/P/T) EG&S policy Working Group (WG). • Number of research results successfully used to help to structure the EG&S policy framework.
7A.2 Engagement with stakeholders to ensure the proper development of an EG&S policy framework.	• Development of an EG&S policy communication plan according to schedule. • Number of F/P/T EG&S policy updates and presentations at relevant stakeholder meetings. • Development of an AAFC EG&S policy website; publication of EG&S Policy Principles, Pilot Project Criteria, and Pilot Evaluation Matrix according to schedule.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
7A.3 The implementation of EG&S policy pilot projects that will contribute to the development of an EG&S policy framework. *Linked to Federal Goals: 4.2.1, 4.3.1, 5.2.1 & 5.3.1*	• Percentage of EG&S policy pilot proposals that have been assessed by F/P/T working group, screened against accepted pilot criteria, and submitted for Advancing Canada's Agriculture and Agri-Food (ACAAF) funding. • Gap assessment to determine which types of pilots would be an environmental, economic, and social benefit. • Percentage of pilot project results used in the development of a National EG&S Policy Framework.
Integrated Water Resources Management	
7B.1 Increase capacity in AAFC, provincial/territorial partners, First Nations, non-government organizations, communities of experts, watershed authorities, and stakeholders to support IWRM and advance watershed planning and management in agricultural landscapes.	• Number of participants at IWRM-related forums, workshops, conferences, and training sessions that are organized by AAFC. • Number of partnerships, groups, agencies, or authorities that provided organizational, technical or financial support for activities that may affect or influence IWRM-related decisions. • Level of awareness among participants in attendance at AAFC forums, workshops, and training sessions of the IWRM approach and benefits to watershed planning and management.
7B.2 Transfer science-based knowledge and tools to AAFC, provincial/territorial partners, First Nations, non-government organizations, communities of experts, watershed authorities, and stakeholders which can be used to assess, analyze, monitor, evaluate, and report on agricultural practices, risks, and related resources in watersheds. *Linked to Federal Goal: 1.3.2*	• Number of tools developed or transferred to assess, analyze, monitor, evaluate, or report on agricultural practices, risks, and related resources in watersheds. • Number of knowledge development and transfer and education awareness activities undertaken to improve scientific understanding of agricultural practices, risks, benefits and resource-related needs in watersheds, and to promote use of tools for decision-making. • Number of guidelines, standards, methodologies, scientific studies, and watershed-related reports that can support decision-making for AAFC, partners, and watershed authorities. • Number of IWRM groups, agencies, and authorities benefiting from the use of knowledge and tools developed by AAFC to make planning and management decisions in watersheds.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
7B.3 Improve targeted adoption of beneficial management practices in agricultural based watersheds to improve watershed health and, ultimately, water quality. *Linked to Federal Goal: 1.2.1*	• Number of watershed-based Equivalent Agri-Environmental Plans (EAEP) implemented and IWRM initiatives that promote agricultural BMP adoption. • Number of BMPs implemented in watershed areas that use the IWRM approach to planning and management. • Number of BMPs implemented under National Farm Stewardship Program (NFSP) as a result of an EAEP. • Level of awareness among producers and stakeholders of the benefits of adopting BMPs for watershed protection.
Programs	
Co-operative Development Initiative	
8A.1 Make co-operative advisory services and technical assistance readily available to citizens. *Linked to Federal Goal: 4.2.1*	• An advisory services partnership is established. • Number of expert advisors available to provide technical assistance to citizens. • Number of citizens requesting and receiving technical support.
8A.2 Implement innovation and research activities to lead to a better understanding of the role co-operatives can play.	• Percentage of innovation and research projects supported by the program. • Percentage of research reports completed and disseminated. • Percentage of departments and organizations engaged in co-operative research.
8A.3 Develop and expand partnerships with the co-operative sector, various levels of government, non-government organizations, academia and other sectors.	• Number of partners/ stakeholders engaged in co-operative research. • Level of participation of sector organizations in sector capacity building. • Number of partnership activities between the Government of Canada and stakeholders.
Canadian Farm Families Option Program (CFFOP)	
8B.1 Implementation of CFFOP. *Linked to Federal Goal: 4.2.1*	• Level of satisfaction of initiative as determined by a survey. • Number of applications. • Number and value of payments. • Payments processed within 30 days. • Number of participants enrolled in Farm Business Assessment, Canadian Agricultural Skills Service, or equivalent programming.

OUTPUTS (DELIVERABLES)	PERFORMANCE INDICATORS
8B.2 Evaluation/Review of CFFOP.	• Canada-wide distribution of payments. • Number of advisory committee meetings/calls. • Participant satisfaction as determined by a survey.
8B.3 Advisory Board interim and final reports.	• Completion of program review. • Time frame met for reporting. • Value/impact of the recommendations for future program design.

ACTIVITIES

The Next Generation of Agricultural Policy

1.1.1 Participate in Canada-wide consultations.

1.1.2 Participate in developing policy documents.

1.1.3 Report on policy documents.

1..2.1 Participate on F/P/T working groups to develop framework and contribution agreements.

1.2.2 Participate on F/P/T working groups to implementation agreements.

1.2.3 Prioritize agreements.

1.2.4 Report on agreements.

1.3.1 Participate on F/P/T working groups to develop program and research activities.

1.3.2 Evaluate program and research activities.

1.3.3 Report on APF progress: "Report to Canadians."

Canadian Rural Partnership

2.1.1 Analysis of federal policies, services, programs, and legislation (Rural Lens Reviews).

2.1.2 Develop a federal engagement strategy.

2.1.3 Management of Rural Policy Network.

2.1.4 Support, develop, and manage Rural Teams, including Rural Team Canada network.

2.1.5 Develop Rural Team Action Plans.

2.2.1 Collaborative rural research at the regional, national and international level.

2.2.2 Research support and assistance for F/P/T initiatives.

2.2.3 Rural programs to research and verify models for sustainable rural development and community capacity building.

2.2.4 Collection and analysis of rural statistics.

2.2.5 Research informed decision-making methodologies, tools, and experiences.

2.2.6 Collaborative research papers.

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ACTIVITIES (cont'd)

2.2.7 Develop a community information database (GIS).

2.3.1 Dissemination of statistical and analytical products, and organize seminars and learning series.

2.3.2 Manage and maintain the website for the Canadian Rural Partnership.

2.3.3 Provide leadership in the development and maintenance of the Rural and Remote Services Cluster, a Government Online initiative.

2.3.4 Prepare rural newsletters.

2.3.5 Prepare rural and small town bulletins.

2.3.6 Organize Rural Dialogue events and prepare reports.

2.3.7 Present Young Leaders in Rural Canada Awards.

2.3.8 Develop a program pocket directory for rural Canadians.

Agricultural Bioproducts Innovation Program

3.1.1 Program management: the ABIP Secretariat is responsible for the day-to-day administration and management of the program.

3.1.2 Selection of networks: competitions will be held to fund networks and projects. All funding decisions are based on arm's length and peer-reviewed assessment of applications by expert panels and selection committee. The Steering Committee and peer review Committee will make recommendations through the Secretariat to the ADM Research for decision.

3.2.1 Research and development: Collaborative research projects will be carried out by Canadian science providers. Results will be disseminated through the open literature notwithstanding IP protection issues.

3.3.1 Monitoring and evaluation: The major tools used for monitoring and evaluation are annual statistical and financial tables, annual reports, mid-term review reports, and progress reports. To facilitate consistency and comparability of information and data, these tables and reports are collected annually from the networks using pre-set templates and models.

3.4.1 Foreground intellectual property resulting from the research of ABIP networks will be assessed for its commercialization potential and technology transfer plans will be developed for implementation.

Sustainable Development Awareness Building

4.1.1 Survey of AAFC employees on their knowledge of the three pillars of SD.

4.1.2 On-going meetings with the Sustainable Development Working Group.

4.1.3 On-going participation in the Interdepartmental Network on Sustainable Development Strategies (INSDS).

4.1.4 Update SD website as necessary.

4.1.5 Hold information sessions within the Department.

4.2.1 Continue to promote (through various mechanisms) SD within the Department.

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ACTIVITIES (cont'd)

4.2.2 SDS will be distributed to internal and external stakeholders, including a response card.

4.3.1 Monitor the application of the SD test questions.

4.4.1 Participate in the development the Government of Canada Sustainable Development training material.

Information and Tools

Strategic Environmental Assessment

5A.1.1 Development and facilitation of SEA information sessions.

5A.1.2 Update the SEA website as necessary.

5A.1.3 Ongoing meetings of and email updates to the SEA Working Group.

5A.1.4 Ongoing attendance at Senior Management Committee on Environmental Assessments (SMCEA) SEA Subcommittee meetings.

5A.1.5 Ongoing communication by the SEA Coordinator of the SEA requirement.

5A.2.1 Preparation of tracking reports for management.

5A.2.2 Ongoing use by SEA Coordinator of the tracking system.

5A.3.1 Ongoing guidance on and review of SEAs by the SEA Coordinator.

Integrated Economic/Environmental Modelling.

5B.1.1 Update and enhance the policy model CRAM (Canadian Regional Agricultural Model) to improve the structure, spatial coverage, and relevance.

5B.1.2 Update and enhance existing linkages between CRAM and the science-based Agri-Environmental Indicators (AEIs), and develop linkages to additional indicators.

5B.1.3 Develop a Land Use Allocation Model (LUAM) to provide better spatial linkages between the large administrative regions in CRAM and the much smaller ecologically based regions (Soil Landscapes of Canada polygons) underlying the AEIs.

5B.2.1 Re-evaluate provincial environmental outcome targets based on updated and enhanced CRAM and AEI models and better information on actual provincial environmental programming under the APF.

5B.2.2 Analysis to contribute to planning for the next generation of agri-environmental programming.

5B.2.3 Climate Change analysis including assessment of additional greenhouse gas mitigation strategies, analytical support for the continued development and implementation of the Offset Trading System, exploring issues related to the impacts of global warming on the agriculture sector and the assessment of options for adaptation, analytical support for the planning and negotiation process for the next round of international agreements, and assessment of the environmental co-benefits of GHG mitigation.

5B.2.4 Strategic Environmental Assessments of existing and proposed agricultural programs and policies to meet legislative obligations; EAs will be done for the Canadian Agricultural Income Support Program (CAIS), the Production Insurance Program (PI), and the Doha round of the WTO trade negotiations. *continued next page*

ACTIVITIES (cont'd)

5B.2.5 Contribute analysis to other policy priorities such as exploration into the concept of Ecological Goods and Services as a basis for future agri-environmental policy development, innovation and the bio-economy, and a water strategy for agriculture.

Agri-Environmental Valuation

5C.1.1 Hold annual meetings of the agri-environmental valuation expert committee.

5C.1.2 Hold first workshop on project development.

5C.1.3 Coordinate and cooperate on environmental valuation activities with other federal and provincial agencies and organizations.

5C.2.1 Issue a request for proposals and market them to relevant members of the research community.

5C.2.2 Set up an adjudication process to review and select submitted proposals.

5C.3.1 Implementation of pilot studies where data is abundant and available.

5C.3.2 Implementation of a valuation study based on existing literature (benefits-transfer).

5C.3.3 Regular consultations on individual studies and program development with scientists, economist/modelers, and policy decision-makers.

Social Indicators

5D.1.1 Ongoing meetings of AAFC's Social Indicators Working Group.

5D.1.2 Ongoing meetings of AAFC's Technical Working Group and associated summary reports.

5D.1.3 Prioritization of social issues.

5D.2.1 Ongoing meetings of expert groups developing indicators.

5D.2.2 Report on Social Indicators Pilot.

Research – Model Farms Research Program

6.1.1 Prepare and publish a review of science pertinent to estimating and reducing GHG emissions from Canadian farms. The review, to be published as a book, will include a series of chapters, each written by several co-authors, and will summarize the research findings from the Model Farm project that was funded through Action Plan-2000 on Climate Change (AP-2000) and A-base.

6.2.1 Conduct measurement exercises at selected sites to better understand and manage the impact of agricultural practices on the environment, with emphasis on GHG emissions and energy use.

6.2.2 Identify and assess new methods to reduce GHG emissions from farms and from energy use on farms.

6.2.3 Develop improved methods (i.e., accessible databases, models) to provide scientific support for mitigation policies, such as the offset system, agri-environmental indicators, and economic analyses of mitigation practice.

6.3.1 Quantify emissions of GHG per unit of production (i.e., litres of methane (L of CH^4) per kg of milk). *continued next page*

ACTIVITIES (cont'd)

6.3.2 Develop and improve algorithms, based on sound science, that predict net GHG emissions from farms and identify ways of reducing them.

6.3.3 Develop a GHG estimation tool that generates output useful for performing economic analyses of proposed GHG mitigation practices.

6.3.4 Evaluate and ensure consistency of the GHG estimation tool used on farms with approaches used for national inventories (e.g., NCGAVS).

6.3.5 Establish communication links with various clients to improve and increase the use of AAFC GHG calculator.

6.3.6 Using the GHG estimation tool, explore the potential role of bio-fuels as a way of reducing net GHG emissions.

Work with Sector to apply and perfect integrated approaches

EG&S Policy Framework

7A.1.1 F/P/T EG&S policy WG meetings and conference calls.

7A.1.2 AAFC analytical staff research development meetings and updates.

7A.2.1 Attendance at relevant stakeholder meetings.

7A.2.2 F/P/T EG&S policy development updates/presentations to stakeholder groups.

7A.2.3 Communication with F/P/T environment departments.

7A.3.1 Pilot proposal assessments and engagement with proponents.

Integrated Water Resources Management

7B.1.1 Promote IWRM as a *Beneficial Management Process* for the management of natural and human resources in watersheds.

7B.1.2 Develop tools, protocols, methodologies, technologies, guidelines, or BMPs for partners and watershed authorities for the collection and evaluation of agriculturallyrelated information in watersheds to support decision-making.

7B.1.3 Support, facilitate, and participate in international, national, regional, and local partnerships, networks, forums, boards, and communities of practice that can affect decision-making related to agricultural activities in watersheds and basins (i.e., development of provincial watershed health indicators).

7B.1.4 Support education and awareness activities to promote APF programs, specifically Environmental Farm Planning, equivalent agri-environmental planning, and the NSFP.

7B.2.1 Provide water resource and/or agricultural related information and assessments for watershed groups/stakeholders and partners.

7B.2.2 Identify existing and emerging issues and gaps in agricultural information, tools, and BMPs needed to support watershed planning and management.

7B.2.3 Develop/test satellite/radar imagery tools and data collection/analysis tools and protocols for partners and watershed authorities for identifying and/or quantifying agricultural risks in watersheds.

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ACTIVITIES (cont'd)

7B.2.4 Provide trend analysis information on Canadian agri-environmental health indicators.

7B.3.1 Promote access to APF programs (such as EAEP, NFSP, NWSEP), services and technical expertise to improve financial, technical and organizational capacity of provinces and watershed authorities to set goals and implement changes related to agricultural activities and practices.

Programs

Co-operative Development Initiative

8A.1.1 Invest in advisory services for the co-operative sector to build sector capacity for co-operative development.

8A.2.1 Raise awareness of co-operatives and build a common, national understanding of the unique role that co-operatives can play.

8A.2.2 Invest in innovation and research activities to test new applications of the co-operative model.

8A.3.1 Develop and expand partnerships to achieve Co-operative Development Initiative program objectives.

Canadian Farm Families Options Program (CFFOP)

8B.1.1 Implementation of CFFOP Year 1 and Year 2.

8B.1.2 Provide guidance on program promotion and communication.

8B.1.3 Monitor administrative efficiencies of CFFOP.

8B.1.4 Develop and maintain an integrated database with Renewal programs and Farm Income Programs.

8B.1.5 Develop low-income farmer-level data and information on related Renewal activities.

8B.2.1 Ongoing review of CFFOP.

8B.2.2 Provide advice to support policy decision-making with respect to development or improvement of CFFOP-type program.

8B.2.3 Conduct survey of CFFOP participants and integration with Renewal programming in order to evaluate the effectiveness and make recommendations on future program development.

8B.2.4 Conduct research and analysis to determine impacts of CFFOP on low-income farm families.

8B.2.5 Provide support for the Advisory Board.

8B.3.1 Input on next generation policy.

8B.3.2 Report to Minister on findings of program review and recommendations for future program direction.

8B.3.3 Report to Cabinet with proposal for future program.

Conclusion

Perhaps more than any other sector in Canada, agriculture and agri-food production demonstrates the strong linkages among the three pillars of sustainable development – economic, environmental, and social. Economic sustainability will be achieved as the sector continues to diversify and adapt to changing market conditions, build on scientific and technological advances to create new products and processes, and seize emerging opportunities. Environmental sustainability, the foundation of sustainable agriculture, will be realized as the industry uses resources wisely and makes production choices that limit negative impacts on the environment. Social sustainability ties agriculture and agri-food production firmly to people. As the sector contributes to their health and well-being, they in turn contribute to their communities and to society at large.

Agriculture and Agri-Food Canada's understanding and application of sustainable development principles have evolved over the years, with many signs of progress. From a reduction in greenhouse gas emissions to the pursuit of markets for new agri-food and nonfood products, the sector is taking steps to ensure its sustainability into the future. The Department supports these efforts by, among other things, developing effective policy and programs, providing reliable analysis and information, and undertaking relevant research and development.

Agriculture and Agri-Food Canada viewed the inception of federal sustainable development strategies nine years ago as an opportunity to scrutinize its activities more closely through the lens of environmental sustainability, an emphasis

that was right for the time. In subsequent strategies, more attention has been paid to the links between environmental sustainability and the other two sustainable development pillars. Development of the Agricultural Policy Framework allowed AAFC to begin operating from a more integrated perspective, with sustainable development principles built right into the overarching policy framework that guides departmental work. Lessons learned through this experience have helped in formulating this sustainable development strategy and will also help guide the development of the next generation of agricultural policy. Agriculture and Agri-Food Canada will continue to lead the sector by example, greening its own operations. It will also work with partners to seek creative solutions to pressing issues. These partnerships will merge perspectives, interests, expertise, and resources to advance the principles and objectives of sustainable development more effectively in the context of agriculture and agri-food production in Canada and around the world.

Annex A: Preparing this Strategy

Guidelines

The preparation of sustainable development strategies is a government-wide effort that requires government-wide direction. The Deputy Ministers' Policy Committee on Environment and Sustainability was established in 2005 to formulate such direction, but government-wide guidance on the fourth round of SDSs was not available in late 2005 when work on this strategy began. Instead, AAFC looked to the guidance provided for the third SDS, as well as to recommendations made in the Commissioner's 2005 report to Parliament, when it began preparing this strategy. Guidance in the form of a document entitled *Coordinating the Fourth Round of Departmental Sustainable Development Strategies* was received while this strategy was being drafted. Most of the guiding principles outlined in the guidance document were consistent with previous strategies and have been incorporated into this strategy.

Agriculture and Agri-Food Canada contributed to interdepartmental efforts to make the fourth round of strategies more coherent across the government by establishing federal sustainable development goals, as presented in *Coordinating the Fourth Round of Departmental Sustainable Development Strategies* and outlined below. The Department contributed to these federal priorities where relevant to its mandate, as follows.

Consultations

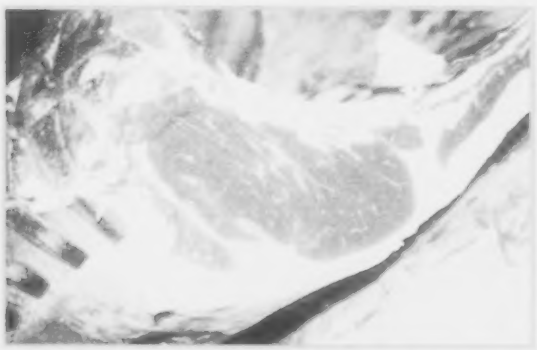
Consultation with sectoral and government partners is a key means of maintaining transparency and cooperation during the development of a departmental SDS. Extensive consultations were held during the development of the Agricultural Policy Framework (APF), which formed the core of AAFC's SDS III. Because mechanisms are already in place to review implementation of the APF, the framework was not included in the SDS consultation workshop. Consultations focussed instead on opportunities to strengthen linkages among, and to better integrate, departmental activities under the three pillars of sustainable development (i.e., economic, environmental, and social development).

In November 2005, AAFC conducted a consultation workshop to solicit input from stakeholders for the development of this strategy, particularly with respect to three integration initiatives: ecological goods and services policy, agri-environmental valuation, and social indicators. Participants represented a variety of national agriculture organizations, commodity groups, academia, and other departments. See Annex D for a more detailed account of this workshop. In addition, some of the integration initiatives described in Chapter 4 have undergone separate consultation.

Learning from SDS III

The Commissioner of the Environment and Sustainable Development monitors the Government of Canada's efforts to protect the environment and promote sustainable development, reporting findings to Parliament and making recommendations for improvement. The Commissioner evaluates each round of federal sustainable development strategies and assesses the progress of individual departments in implementing the action plans and meeting the objectives identified in their strategies.

In 2005, the Commissioner reported to Parliament on the overall quality of the third round (2004–2006) of sustainable development strategies, assigning three grades to various SDS features – meeting expectation, meeting expectation to some degree, and not meeting expectation. Agriculture and Agri-Food Canada earned the top rating for Role and Fit (the role of the strategy and how it fits with other



Green Procurement Commitment

Agriculture and Agri-Food Canada has a green procurement policy in place to ensure that its procurement activities align with its environmental responsibilities. The Department identified the need for a "Green Procurement Awareness" training program to equip personnel with purchasing responsibility to recognize opportunities for green procurement. In SDS III, AAFC made a three-year commitment to deliver green procurement awareness training to the integrated service managers community and all NCR Assets Management Procurement Staff commencing in 2004.

In the 2005 report to Parliament, the Commissioner of the Environment and Sustainable Development found that AAFC had made satisfactory progress against this commitment. In 2004–2005, AAFC partnered with Public Works and Government Services Canada to provide a green procurement awareness course on-line, which was less expensive to administer and more flexible for staff to use. Green procurement awareness training has now been provided to all departmental procurement staff, and this training is now being extended to all AAFC staff.

(*Source*: http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20050907xe04.html)

departmental plans and strategies). Vision (for sustainable development in the context of the department's mandate). Goals and Objectives (with a focus on long-term results). and Measurable Targets (with deadlines and clear deliverables). Work in the areas of linking goals and objectives with targets and actions. setting clear targets. describing the lessons learned from 2001. and outlining changes made in 2004 was found to partially meet expectations. The evaluation pointed out areas that could be improved in preparing this SDS.

More than 30 federal departments and agencies tabled a sustainable development strategy in 2004. As part of the 2005 report. the Commissioner assessed the action of nine of these departments and agencies in implementing key commitments made in their second and third strategies. One of three ratings was assigned – satisfactory progress. some progress. or limited or no progress. Agriculture and Agri-Food Canada was assessed against its commitment in SDS III to deliver green procurement awareness training to all AAFC procurement staff by 2005. The Commissioner found that satisfactory progress was being made on this commitment at that time (*see* Box on previous page).

Annex B: Department Progress on SDS-III

Agriculture and Agri-Food Canada's third sustainable development strategy, *Sustainable Agriculture: Our Path Forward*, was released in February 2004. That strategy identified a number of deliverables for each of the five elements of the APF. Progress against each of these deliverables is described in the following tables, organized by APF element. Each deliverable is stated, followed by two columns. The left-hand column indicates departmental achievements related to each deliverable. As work under the APF continues until 2008, work planned for each deliverable for 2006–2008 is described in the right-hand column.

Environment

Departmental Priority: To enhance producers' capacity to manage risk and to increase the sector's viability and profitability

ACHIEVEMENTS	WORK PLANNED
Deliverable: Policy integration with Government of Canada environmental domestic and international policy priorities	
Domestic Contribution to the development of the Invasive Alien Species Strategy for Canada.	Continue contributing to the further development and implementation of the Invasive Alien Species Strategy for Canada.
Contribution to the review of the *Canadian Environmental Protection Act*.	Continue contributing to the review of the *Canadian Environmental Protection Act*.
Contribution to the design of the potential offset system through the federal government's interdepartmental Working Group on Offsets, established in early 2003 to develop the initial design of a Domestic Offset System.	Continue to ensue integration with the federal climate change policy through the federal government's interdepartmental Working Group on Offsets.

ACHIEVEMENTS	WORK PLANNED
AAFC is an active participant on the F/P/T National Offsets Quantification Team (NOQT), an umbrella group overseeing several sector specific technical working groups that are developing standardized GHG quantification protocols. The NOQT ensures that consistent methodologies are used across sectors for key offset system project types.	Continue to ensure a standard approach across sectors through the F/P/T National Offsets Quantification Team.
AAFC (PFRA) is the federal lead for the Soils Management Technical Working Group, which is developing some key soil management protocols.	Continue to act as the federal lead for the Soils Management Technical Working Group in the context of federal environmental policy.
International	
Development of the International Agri-Environmental Strategy, a component of the broader AAFC International Strategy.	Continue to incorporate elements of the international Agri-Environmental Strategy to help develop policy foresight and management of current and emerging international issues, agri-environmental issues, and their linkages with other policy areas.
The following projects have been initiated by the Department: • Initiation of a Tsunami Rehabilitation project dealing with contaminated groundwater in Sri Lanka; • Initiation of CIDA cooperation projects in Ethiopia, Egypt, and Ukraine; • Technical cooperation in Iran, Chile, Cuba, and South Africa.	• Operationalize the Tsunami Rehabilitation project dealing with contaminated groundwater in Sri Lanka; • Conclude China, Ethiopia, Egypt, and Ukraine projects; • Facilitate and manage technical cooperation in Cuba, Iran, Chile, and South Africa.
Advance strategic work planning and collaboration with AAFC's Markets and International Trade team under the International Development Strategy.	Advance strategic work planning and collaboration international development strategy with Markets and Trade Team.
Participation with Mexico and the U.S. on a Tri-National Initiative on Environmentally Sustainable Agriculture and Water Quality, leading to presentations at the 4th World Water Forum in Mexico City, March 2006.	Continue to work with Mexico and the U.S. on agri-environmental issues of mutual interest.
Contribution to the Sustainable Agriculture and Rural Development (SARD) Partnership Initiative, launched at the World Summit on Sustainable Development in 2002, through the provision of a Canadian resource.	Initiation of a second assignment for a Canadian expert to assist in the development and operation of the FAO/SARD Resource Facility designed to support the transition to people-centred sustainable agriculture and

ACHIEVEMENTS	WORK PLANNED
specialist to further develop the SARD Initiative, which seeks to build the capacity of rural communities, disadvantaged groups, and other stakeholders to improve access to resources, promote good practices for SARD, and foster fairer conditions of employment in agriculture.	rural development and to strengthen participation in program and policy development.
Deliverable: Alignment of federal and international policy and programs with APF	
Participation on the Deputy Minister Policy Committee on Environment and Sustainability, which helped to set the forward agenda on federal priority environmental issues, including Invasive Alien Species and Smart Regulations.	Continued participation on policy committees that help to define and implement environmental policy priorities for the federal government.
Contribution to the first meeting of the Parties to the Kyoto Protocol in Montreal in November 2005.	AAFC will collaborate with lead department(s) on the development of a national policy to address climate change and air quality, in support of the federal government's proposed *Clean Air Act*.
Production of an "Agriculture and Climate Change" brochure, highlighting AAFC's plans and programs that contribute to GHG emission reductions, increase carbon sinks, and enable producers to adapt to climate change impacts.	Development of the next generation of agriculture policy.
Deliverable: Innovative environmental technologies assessed and refined for use by agricultural producers and agri-businesses	
Applied research and investigations in the application and use of Electromagnetic (EM) technology for providing cost-effective means of assessing site suitability for manure storage and emergency livestock mortalities disposal.	Continued research and investigations in the application and use of Electromagnetic (EM) technology for providing cost-effective means of assessing site suitability for manure storage and emergency livestock mortalities disposal.
Applied research in the use and effectiveness of impressed current to extend the life of water wells.	Continued applied research under the Sustainable Water Well Initiative to study the use and effectiveness of impressed current and other techniques to extend the life of water wells.
Additional achievements are reported under the deliverable Environmental Technology Assessment for Agriculture (ETAA), below.	Additional work planned is outlined under the deliverable Environmental Technology Assessment for Agriculture (ETAA), below.

ACHIEVEMENTS	WORK PLANNED
Deliverable: National Agri-Environmental Health Analysis and Reporting Program (NAHARP)	
Further development and improvement of 12 existing indicators, and initiation of the development of 12 new indicators for agriculture and three for the food and beverage industry.	Continued tracking and refinement of established indicators and development of the new indicators.
Release in 2005 of the report, *Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series, Report #2.*	Continued data development on adoption of management practices using surveys (e.g., Farm Environmental Management Survey).
Distribution of complementary information on the Internet, including online mapping for environmental indicators, at: www.agr.gc.ca/env/naharp-pnarsa.	Continued development, refinement, and application of economic–environmental modelling and forecasting tools to inform policy makers.
Ongoing development of integrated economic–environmental modelling and forecasting tools based on the agri-environmental indicators.	Continued refinement of the methods of agri-environmental valuation (quantifying the economic costs and benefits, to farmers and society, of environmental change in agriculture).
Deliverable: National Agroclimate Information Service (NAIS) – knowledge and capacity development	
Development of NAIS institutional capacity through establishment of an NAIS Advisory Committee, and the development, distribution, and use of satellite and other imagery.	Development of improved soil moisture monitoring and prediction capacity in conjunction with research expected under the Global Earth Observation Initiative, Crop Condition Assessment Program, and other emerging remote-sensing opportunities.
National monitoring and reporting of climate impacts on agriculture through national-scale reporting on the Drought Watch website in 2005, operationalization of the Canada drought model, and service as the Canadian lead for drought reporting in the North American Drought Monitor.	Continued enrichment of North American Drought Monitor (NADM) reporting and monitoring as these activities are further defined under bilateral and multilateral agreements. Expansion of national data coverage, as well as quality assurance and quality control.
Greater accessibility of climate data and information across the agricultural landscape of Canada, through the provision of quality controlled daily near-real-time temperature and precipitation data; mapping of data and derived climate indicators on the Drought Watch website; and negotiations with Alberta, Manitoba, and Quebec to acquire provincial data.	Improved accessibility to climate information via enhanced websites, data bases, and interface tools. Development of support tools for decision makers.

ACHIEVEMENTS	WORK PLANNED
Increased capacity to give early warning of seasonal climate conditions, through acquisition of regional weather forecasting software, and ongoing development of agricultural forecasting tools.	Work with the statistics community, climatologists, and meteorologists to identify trends in the variance of key climatic variables.
Technical support provided to the AAFC strategy development for enhanced understanding of climate variability and change impacts and adaptation. Collaboration on ongoing development of crop models for application in decision support products	Work with the regional offices to promote the development of provincial task forces and plans for drought and other extreme weather/climate events.
Deliverable: National standards developed to be used to measure agricultural producers contribution to environmental sustainability	
National Agri-Environmental Standards Initiative (NAESI) – Signing of an MOU in December 2003 with Environment Canada (EC) and Treasury Board Secretariat (TBS) to develop a suite of non-regulatory standards for environmental quality for agriculture in the four theme areas of air, biodiversity, pesticides, and water.	NAESI Ongoing participation in the governance of the program and collaboration in developing the standards or environmental benchmarks.
Creation of a NAESI governance structure comprising a Director General Steering Committee (EC, AAFC), which oversees the standards development process; an ADM-level Joint Management Committee (AAFC, EC, TBS as ex-officio), which approves annual workplans; and a Deputy Minister's Committee (AAFC, EC), which approves and releases the funds.	Continued research and gathering of primary scientific information for each of the four theme areas. Concurrent development and testing of models that will help establish the standards (2006–2007).
Close collaboration between AAFC and EC scientists for standards development.	Continued dialogue between AAFC/EC and key stakeholders to discuss progress of NAESI, concerns, and potential uses.
Co-hosting of a national stakeholder consultation workshop (March 2006) with EC to inform and consult with stakeholders on NAESI, including the eventual use of the standards and linkages in existing stakeholder activities.	Incorporation of the program's outputs into science assessments by EC and delivery to AAFC (by March 2008).
Environmental Farm Certification	
Assessment of environmental certification, exploring possible drivers for certification,	Further exploration of environmental management systems and their application at

ACHIEVEMENTS	WORK PLANNED
and options for farm environmental certification and integration with other initiatives. Assessment of the feasibility of basing certification on environmental farm plan criteria and/or process.	the farm level. Exploration of the possibility of integrating multiple assurance systems (i.e., food safety, animal welfare, environment) and their respective certification components. Determination of the appropriate government role in environmental certification.
Deliverable: New knowledge, tools, and processes in: soil assessment, use, and health; water quality and quantity; air quality; biodiversity; and integrated pest management	
Scientists in the Environmental Health National Science Program (EHNSP) generated new knowledge on how the agriculture and agri-food sector interacts with the environment, as well as new technologies/practices to • minimize the potential adverse effects of fertilization practices on soil, water, and air, • reduce pesticide leaching in the environment and potential effects on non- target organisms; • minimize the potential adverse effects of agriculture on, and enhance the benefits for, biodiversity and bio-resources. Annual production of several hundred publications and communications. In 2005–2006: 825 scientific publications, 266 in peer-reviewed scientific journals; 60 new product licences; 601 oral communications and 237 posters at scientific conferences. Collaboration of EHNSP scientists with producers and the private sector through the establishment of 74 Matching Investment Initiative research projects.	Research to increase the knowledge of interactions between agriculture and the environment, especially in the areas of soil, water, and air quality; biodiversity; and Integrated Pest Management (IPM). Use of this knowledge to develop BMPs (*see* details under Science and Innovation). Continuation of the Matching Investment Initiative. Action Plan 2000 on Climate Change (AP2000) – Model Farm Research Program, Greenhouse Gas Mitigation Program (GHGMP)
Soil assessment Continued assessment of soil priorities and risks related to soil erosion, greenhouse gases, environmental impacts of nutrient management, soil suitability, field water management, and BMPs for dryland and irrigated crop production.	Completion of a BMP needs assessment. Facilitation of a workshop to identify BMPs to improve phosphorus management.

ACHIEVEMENTS	WORK PLANNED
Consultation with producers to identify issues related to the adoption and implementation of zero tillage and other beneficial practices for soil management.	
Development of soil management protocols for carbon trading under the climate change offset system.	Development of additional soil management protocols for conversion of land to perennial forages and reduction of summerfallow.
Identification of environmentally sustainable strategies for managing summerfallow in the Brown soil zone of Western Canada.	
Water Quality and Quantity	
Ongoing development of a departmental Strategic Plan for Water.	Finalization of the departmental Strategic Plan for Water.
Participation in the development of the Canadian Water Sustainability Index.	Testing of the working index in six communities, after which the index structure will be evaluated and modified as required.
SDS II Target 1.2.6 included a commitment to track an increasing trend in the adoption of best practices for water use by farms and food processing facilities. An agriculture water quantity and use efficiency indicator is under development by NAHARP.	Continued development of a agriculture water quantity and use efficiency indicator as per SDS II Target 1.2.6
Air Quality	
Development and funding of 25 BMPs that have a significant co-benefit for air (particulates, odour, GHG emissions) under the APF National Farm Stewardship program.	Continued collaboration with Environment Canada through the National Agri-Environmental Standards Initiative (NAESI) under the APF to develop air quality standards related to particulate matter/ammonia and odour.
Biodiversity	
Habitat Availability Development under the National Farm Stewardship Program of five categories of BMPs that specifically target biodiversity; several other categories have secondary benefits for biodiversity.	Partnership to create a Biodiversity Conservation Self Assessment Guide for producers.
Updating and enhancement of the Wildlife Habitat Availability Indicator. Development of a Habitat Capacity Index.	Enhancement, validation, and updating of the Habitat Indicator.
Biodiversity projects funded under CARD/ACAAF.	Development by Environment Canada, under an MOU with AAFC, of biodiversity environmental priority performance standards that will set targets for Habitat Conservation (to be completed in 2008).

ACHIEVEMENTS	WORK PLANNED
Species at Risk	
Carrying out of 25 species at risk surveys and recovery projects with funding from the Interdepartmental Recovery Fund (IRF) and internal sources (Total > $900,000).	Initiation of 10 new IRF - species at risk projects in 2006–2007 (Total $300,000).
	Enhanced access to species occurrence data.
Leadership in developing: • a geospatial species-at-risk database with the capacity to map SAR occurrences on AAFC properties; • a pilot Canadian Biodiversity Information Facility (CBIF), providing access to a biological name service, online mapping, specialized scientific biodiversity databases, and image libraries.	Possible expansion of the CBIF.
	Expansion of Plant Gene Resources of Canada's collection to include native plants of Canada.
	In partnership with the University of Saskatchewan, continuation of the Canadian Animal Genetic Resources program.
Wildlife Damage	
Consultations to develop a Risk of Wildlife Damage Agri-Environmental Indicator. Development of initial models to predict risk of waterfowl damage.	Via NAHARP, AAFC' s biodiversity indicator on Risk of Wildlife Damage to Crops and Livestock is currently under development and will be reported in 2008.
Funding of a goose-scaring project for the producers in Quebec to reduce risk of crop damage from staging geese.	Bird-scaring activities in 10 regions of Quebec.
Integrated Pest Management	
Contribution to the federal government's pesticide initiative through research on the effects of pesticides on non-target species, development of reduced-risk pesticides and biological pesticides, support for the introduction of minor-use pesticides.	Continued work to establish programs to improve access to minor-use and reduced-risk pesticides for agricultural use.
Deliverable: Environmental Technology Assessment for Agriculture (ETAA)	
Signing of 13 contribution agreements with industry and farmer organizations to evaluate the environmental and economic performance of innovative technologies for animal feeding, manure and waste treatment, crop nutrients, pest management, and renewable energy.	Completion of the 13 established projects. Model life cycle analysis for at least five of those projects.
Projects: • 13 on-farm regional projects to evaluate innovative technologies (plus selection and approval for six additional projects); • five pilot plants for anaerobic digestion and gasification of manures and biomass; • quantitative determination of environmental performance for 10 technology projects.	

ACHIEVEMENTS	WORK PLANNED
Deliverable: National Land and Water Information Service	
Receipt of Effective Project Approval from Treasury Board in May 2005. Development of a website and public release of Phase 1 in spring 2006, delivering the service as a single window into existing AAFC geographic data holdings and applications.	Introduction of the next three phases of the National Land and Water Information Service in four phases over four years, with each phase bringing greater levels of service and tangible benefits to users: Phase 1: Single Window; Phase 2: Geospatial Environment; Phase 3: National Source for Agri-Environmental Geospatial Information; Phase 4: Specialized Partner Information Integration.
Deliverable: Environmental Farm Plan program (EFP)	
Completion of first iterations of scans in most provinces/territories, covering 91.5% of agricultural land in Canada, to help identify priority areas and issues. Implementation of Environmental Farm Plan programs in all provinces and one territory, with AAFC providing appropriate support, such as technical assistance and program management; 43,000 + producers have participated in the APF EFP program, with 29,000 producers developing a reviewed farm plan.	Updating of provincial agri-environmental scans on an on-going basis with the best available information, including program performance information from the Environmental Farm Plan and National Farm Stewardship Programs. Continued enabling of the development and implementation of environmental farm plans and delivery of better information to producers, including the development of tools and information to support the assessment process (e.g., electronic notebooks, analysis models, etc.). Promotion of the equivalent of environmental farm planning for use in watershed and group initiatives.
Deliverable: Beneficial management practices (BMPs)	
Support under the National Farm Stewardship Program (NFSP) of 3491 projects to establish BMPs on farms (excluding critical areas and shelterbelt BMPs). Provision of technical information and expertise to support the NFSP (e.g., BMP descriptions, fact sheets, project design assistance). BMP demonstrations, field days, and other technology transfer activities.	Continued research and testing of established beneficial management practices, and promotion of these practices through incentives, technology transfer, and research.

ACHIEVEMENTS	WORK PLANNED
Watershed evaluation of BMPs (WEBs) — Assessment of environmental and economic effects of several agricultural BMPs on water quality at seven regionally selected micro-watershed sites across Canada. WEBs runs from 2004–2008 and is largely funded through Greencover Canada's Technical Assistance component.	Continued watershed evaluation of BMPs (WEBs) — Assessment of environmental and economic effects of selected agricultural BMPs on water quality at the seven watershed sites across Canada.
Deliverable: Greencover Canada (GCC)	
Approval of more than 592,000 acres of sensitive annual cropland for conversion to perennial cover. Completion of 1834 projects to conserve critical areas and plant shelterbelts. Funding and completion of 17 projects to provide producers and partners with knowledge in the areas of range, riparian, and shelterbelt science.	Continued support for the conservation of sensitive landscapes.
Deliverable: National Water Supply Expansion Program and Rural Water (NWSEP)	
Implementation of 3807 water-infrastructure projects and 164 strategic studies to date. Signing of contribution agreements with nine provinces (all provinces except Newfoundland and Labrador) and the Yukon to date. Funding to 5692 producers for water infrastructure in 2005–2006. Provision of technical information to producers in the form of publications, research reports, workshops, field days, and individual consultation.	Ongoing delivery of NWSEP, with an expected increase in the volume of applications now that the program is being implemented across the country. Continued emphasis on applied science in support of sustainable water development, water planning and management, water conservation, and water quality protection. Priority work on irrigation, because of its pertinence to risk management and climate change. Ongoing operation and maintenance of Junction Dam (in southwest Saskatchewan), as well as major capital improvements for safety and efficient water management.
Deliverable: Special water projects	
Implementation of 27 knowledge-development projects, including 18 water quality projects.	Continued emphasis on applied science work, with partners, in support of sustainable water development, conservation, and water quality protection. Focussing of initiatives to deliver results on the landscape. Use of APF programming to enhance these efforts. Continued priority on irrigation, driven by risk management and climate change.

ACHIEVEMENTS	WORK PLANNED
Ongoing maintenance and major upgrades of Duncairn Dam to ensure the security of municipal and irrigation water supplies in southwestern Saskatchewan.	Ongoing operation and maintenance, as well as major capital improvements for safety and efficient water management at Junction Dam, Saskatchewan.
Deliverable: Prairie Shelterbelt Program	
21 research projects focussed on enabling agroforestry systems in the agricultural region of Canada. Results: 4.1 million seedlings shipped to 14,930 clients; 29,557 hectares of cropland protected by shelterbelts; 303 hectares of improved wildlife habitat; crop benefits from shelterbelts established during the period; 5.33 M tonnes of topsoil conserved.	Continued promotion of agroforestry practices on the Canadian landscape.
Deliverable: Action Plan 2000 on Climate Change (AP2000) — Shelter Enhancement Program (SEP)	
Development of technologies and models to measure and verify GHG emissions from agroecosystems under varying management practices, which resulted in the creation of a list of 28 promising BMPs to reduce GHG emissions from agroecosystems. Creation of a computer-based, user-friendly Greenhouse Gas Calculator (GHGFarm), which can estimate GHG emissions from farms across Canada under varying management practices. This program is now freely available for download online. Exchange of information with producers and the public via 2800+ demonstrations and training sessions that attracted 125,000+ attendees; dissemination of 1260 media pieces; and participation in the public parallel events at the 2005 United Nations Conference on Climate Change. SEP: • 365 planting projects completed with 647,315 seedlings shipped; additional 660 planting projects approved for 2006; • 50% of SEP sites evaluated and planting success reported; • carbon sequestration forecast is 0.01 MT CO_2e/year in 2010.	Improved knowledge of agroecosystem practices through research and testing; and delivery of this information to clients in various ways. Further monitoring of GHG emissions and continued development of process based models to estimate GHG emissions in support of offset trading protocols. Refinement of the GHGFarm program to include new and innovative farming practices (e.g., production of biofuels) and to include an economic component.

Food Safety and Food Quality

Departmental Priority: To minimize the risk and impact of food-borne hazards on human health, increase consumer confidence, and improve the sector's ability to meet or exceed market requirements for food products

Work under this element of the APF underwent changes during the period covered by SDS III. Initially, the National Integrated Agri-Food Safety and Quality System was envisioned as the tool to achieve AAFC's goal of fostering an innovative food system in order to ensure a safe and nutritious food supply. It was first proposed that this system focus on food safety, food quality, and traceability. Food safety programming and the development of a traceability system responded to immediate needs and priorities, while work on food quality was intended to respond to growing consumer interest in the quality and nutritional attributes of food.

As a result of further research and discussion, as well as growing interest in the relationship between agriculture and health, it became clear that a policy framework was needed to provide coordination and coherence among these three interests. Thus, work began on the National Food Policy Framework (NFPF) as the governance mechanism to better coordinate and prioritize policy development and decision-making related to Canada's food system. This framework will create a more predictable policy and planning environment, enabling both governments and industry to foresee issues and risks and to channel resources and investment where needed.

Animal health and welfare, with its strong linkages to any national system for livestock traceability (part of a national agriculture and food traceability system) became another element of the NFPF. Food Safety was then removed as a stand-alone element, as it is an integral part of each of the other elements.

ACHIEVEMENTS	WORK PLANNED
A National Integrated Agri-Food Safety and Quality System	
Deliverable: A decision-making framework for food safety issues in Canada is developed and implemented by federal, provincial, and territorial governments	
Creation of Task Teams comprising federal, provincial, and territorial governments, industry, and other stakeholders to facilitate decision-making for Traceability and Food Quality. Establishment of a working group to define the scope of the Animal Health and Welfare policy and develop an engagement strategy.	Expansion of work to develop an integrated agriculture–food–health strategy. The next generation of agriculture policy will focus on these links. Consultations in the next round will also examine in part the further investments and initiatives that will be supported by the new policy.
Deliverable: A federal, provincial, and territorial policy framework for food safety and food quality in Canada is developed	
Work to develop a National Food Policy Framework is in the analysis stage. The framework comprises the following components: • National Animal Health and Welfare Policy;	**Policy Development** Continued leadership in the development of integrated and coordinated food policies, decision-making mechanisms, and

ACHIEVEMENTS	WORK PLANNED
• National Livestock Traceability System; • National Food Quality Policy. Work to develop a National Food Policy Framework is in the analysis stage. The framework comprises the following components: • Systems Development, launched in December 2003, comprising: - On-farm food safety projects, administered by the Canadian Federation of Agriculture; - Post-farm food safety projects and Multi-Associations projects, administered by AAFC; • On-Farm Implementation, launched in April 2004; • Food Safety Initiative, with collateral agreements now in place as of December 2005 with Alberta, British Columbia, Manitoba, Ontario, and Nova Scotia.	implementation of tools to ensure the use of sustainable practices all along the food chain. Continued leadership of work to develop principles and criteria leading to a national food quality policy, to assist decision makers in addressing food quality issues. Continued work to examine the current legislative and regulatory framework for animal health and welfare in Canada, options for improving animal disease detection and response capacity, information requirements in support of a national policy, and integration of sound industry risk management practices into the animals-for-food production process. **Canadian Food Safety and Food Quality Program** Continued work to refine and enhance all components of the program. Discussions and work toward a National Agriculture and Food Traceability System, beginning with livestock and poultry.
Deliverable: Incentive measures to encourage the development of specific strategic elements of this national food safety and quality strategy by industry are developed and implemented	
As of March 31, 2006, approval of 70 projects – 68 under Systems Development and two under On-Farm Implementation. These projects are primarily focused on food safety. Systems development by all 19 on-farm associations eligible for funding, and by 10 out of 40 national associations in the post-farm sector that are eligible for funding. Work by four of the five provinces to develop and implement their HACCP implementation and/or outreach programs under the collateral agreements.	Continued collaboration with industry (post-farm organizations in particular) to encourage increased participation in the Canadian Food Safety and Quality Program. Implementation of program changes approved in April 2006 to enhance program flexibility and access to funding. Implementation of new collateral agreements with more provinces and amendment of existing agreements to expand the scope of activities the provinces can carry out under the agreements.

ACHIEVEMENTS	WORK PLANNED
	Feasibility assessments and recommendations by task teams for implementing various mechanisms that will support efforts in Traceability and Food Quality. The Animal Health working group will develop a plan and begin to engage key partners and stakeholders.

Innovative Technologies and Processes that Contribute to Safer and Higher Quality Food Products

Deliverable: Methods to detect, characterize, and control food safety hazards on the farm and throughout the food production systems are developed and shared with industry

Creation of a Traceability Task Team comprising federal–provincial–territorial agriculture ministers. Progress on a decision structure for a National Agriculture and Food Traceability System, beginning with a National Livestock Traceability System.	By 2008, full-scale implementation of the National Livestock Traceability System for livestock and poultry.
Research studies on the fate of contaminants during food production, processing, and distribution.	Completion of two of the three major elements of the NAFTS – animal ID and premises ID. Implementation of pilots to understand requirements for animal movement.
Research to develop and evaluate strategies for prevention and remediation.	Continued research to improve the detection, characterization, and control of biological and chemical food-borne hazards in food production, processing, storage, and distribution.
Research to develop and validate safe food processes.	
Collaboration with CFIA and Health Canada in the development of the first official method for detecting food-borne viruses, now accepted into the Health Canada Compendium of Official Analytical Methods.	
Research results, including the use of essential oils and herbal extracts as alternatives to animal antibiotics.	

Deliverable: Knowledge and strategies to enhance food quality to meet consumer expectations

Creation of a Food Quality Task Team comprising federal, provincial, and territorial governments, industry, and other stakeholders to facilitate decision making.	Feasibility assessment and recommendations by the Food Quality Task Team for implementing various mechanisms that support efforts in food quality.
Research results, including development of dairy formulations to address food allergies, quality predictors for new varieties of	Development of strategies to understand and respond to consumer needs and expectations about food nutritional and sensory quality.

ACHIEVEMENTS	WORK PLANNED
Canadian hard white wheats, and methods to preserve fresh-cut produce.	about food nutritional and sensory quality.
Deliverable: Knowledge to enhance and preserve the nutritional value throughout the food chain	
Research results, including an in vitro model of the human gastrointestinal tract to better understand protein modifications and functionality, and a method to optimize the bioavailability of the soluble dietary fibres in oats	Development of processing methods to enhance food composition and functional properties throughout the value chain.
Deliverable: Knowledge base in support of development of functional foods and nutraceuticals in Canada	
Research results, including identification and characterization of bioactive components in food, enhancement and preservation of their bioactivity, and optimization of effective delivery through integrated research approaches.	Optimization of the extraction and processing strategy for bioactives and enhancement of their bioavailability to obtain health benefits. Collection of input from industry and end users for development of food supplements and other health-benefit chemicals (nutraceuticals, anti-oxidants, probiotics).
Deliverable: New processing platform technologies to improve production efficiency and deliver safe, nutritious and quality food to consumers	
Development of eco-efficiency indicators for Canadian food and beverage industry. Design and scaling-up a continuous osmotic dehydration contractor for small fruits. Technology transfer of a blueberry drying line.	Improvements in the design and monitoring of processes for the production, processing, and delivery of safe food, including on-farm and post-farm Hazard Analysis Critical Control Point (HACCP-based) food-safety assurance systems and process validation for safety. Development of modelling tools for safety process validation.
Deliverable: A plan to ensure the knowledge/tools/technologies developed are transferred to industry in a timely manner is developed and implemented by AAFC scientists	
Transfer of knowledge and technologies occurred through peer-reviewed publications, industry reports and industry meetings, workshops (Canadian Meat Council, CMC, Canadian Poultry Council, CPC).	Office of intellectual property and commercialization (OIPC) is reviewing procedures to transfer tools/technology to industry and will be proposing more effective and timely alternatives.

ACHIEVEMENTS	WORK PLANNED
Maintaining and Enhancing Confidence in Food Safety and Quality in Canada	
Deliverable: A strategy to communicate the progress made by governments and industry on food safety and quality so as to increase Canadian consumers' and foreign buyers' confidence in the safety and quality of the agriculture and agri-food products produced in Canada is developed and implemented	
Work, with partners, to develop an integrated agriculture–food–health strategy that focuses on meeting both agriculture and health objectives while enabling industry to capture changing global demands for healthier food. This policy framework will lead to national and international strategies that will foster consumer confidence at home and abroad. Reflection on recent food safety experiences and integration of lessons learned as the Department moves ahead in developing policy approaches and building partnerships with food system stakeholders.	Expansion of work to develop an integrated agriculture–food–health strategy. Continued reporting against performance indicators in order to communicate progress made by governments and industry.

Renewal

Departmental Priority: To equip the sector with new business and management skills, bioproducts, knowledge-based production systems, and strategies to capture opportunities and manage change

ACHIEVEMENTS	WORK PLANNED
Awareness Raising	
Deliverable: Raising awareness of Renewal programming (Renewal Website)	
Establishment of a Renewal website with information on core programs and other federal, provincial, and territorial agricultural services. Quarterly meetings of the Federal–Provincial–Territorial Renewal (FPT) Working Group to: • develop communication plans; • identify program gaps; • review and adjust program design; • develop an approach to capturing opportunities (sharing information);	Enhancement of the Renewal website to improve information and ease of use. Continued regular meetings of the FPT Renewal Working group, with the following priorities for the remainder of the implementation period: • implementation of communication plans; • performance measurement; • evaluation.

ACHIEVEMENTS	WORK PLANNED
• draw upon expertise from Human Resources and Social Development Canada (HRSDC), Farm Credit Canada, provinces/ territories, community colleges, Canadian Farm Business Management Council (CFBMC), and industry associations. Dissemination of program information to the financial services industry.	Exploration of opportunities for joint delivery of information on Renewal and Environment programs.
Deliverable: Creating greater awareness of advisory services in the private sector (CFBAS)	
Implementation of the Canadian Farm Business Advisory Services (CFBAS) and Planning and Assessment for Value-added Enterprises (PAVE) to help farmers access private sector consultants to assess their finances and plan for expansion, diversification, value-added, risk management, marketing, human resources, or succession.	Dissemination of testimonials from producers who have used the advisory services.
Deliverable: Improving access to best practices information, networks, and mentoring, in order to change attitudes and behaviours regarding advice and business planning (Benchmark website, CFBMC support for management clubs)	
Through the Renewal website, provision of electronic access to financial and production benchmark information, farm management tools, articles on best management practices, and mentoring and networking information.	Further analysis on top/leading farms and dissemination of the results to the sector.
Analysis of baseline information from the 2004 National Renewal Survey on farm business management and learning practices. Funding of industry associations for information dissemination (Canadian Farm Business Management Council, Canadian Agricultural Safety Association) and activities related to young farmers (Canadian 4-H Council, Canadian Young Farmers Forum, Canadian Outstanding Young Farmers). CFBMC provides on its website a 28-page guide on the steps to follow in forming a management club.	Analysis of farmer attitudes toward Renewal priority-type programs, farmer usage of off-farm expertise, continuous learning, and beneficial management practices, to support future program planning particularly in the context of the next generation of agriculture policy. This will draw upon the National Renewal Surveys (2004, 2007), Farm Financial Surveys, a client impact assessment survey, and informal focus groups.

ACHIEVEMENTS	WORK PLANNED
Support for province-specific initiatives: • Alberta: management information; • Manitoba: managing risk education; • Ontario: management information; • Quebec: farm business advisors.	Support for new province-specific initiatives in Alberta and Manitoba.
Benchmarking	
Deliverable: Making benchmark, management, and marketing information available to assist farmers in enhancing their profitability (Benchmark website)	
Development of a benchmarking CD and secure website that allow producers to compare the financial performance of their farm with those of similar size and specialization (http://www.agr.gc.ca/ren/BenchmarkApp/apps_e.cfm).	Updating of the benchmarking CD and website to include five years of historical comparative data.
Farm Business Advisory Services	
Deliverable: Enhancing and improving access to public and private management and consulting services providing business and succession information, using contracted expertise or public expertise, or any combination thereof, to deliver services (CFBAS)	
Implementation of advisory services (CFBAS; Planning and Assessment for Value-added Enterprises, PAVE), providing: • farm financial assessments, action plans and follow-up; • feasibility assessments; • business plans for expansion, diversification, value-added; • succession plans.	Continued delivery and refinement of core programs for financial assessment, feasibility assessment, and business planning.
Development and implementation of feedback surveys (satisfaction and value for money).	Survey of client impact 2007.
Development of an evaluation strategy.	Renewal Survey 2007. Interim evaluation 2007.
Administration of the Farm Debt Mediation Service (FDMS).	Continued delivery of mediation services.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Developing options to respond to situations where farmers may not otherwise qualify for, or be adequately covered by, risk management programs (financial assessments, action plans)	
Implementation of advisory services (CFBAS), supporting assessment of finances, identification of options, and development of action plans. Implementation of support for skills development and learning for low-income farm families (Canadian Agricultural Skills Service, CASS).	Continued delivery and refinement of CFBAS and CASS.
Deliverable: Making a follow-up service available to assist farmers in making decisions on their future (CFBAS follow-up service)	
Under CFBAS Farm Business Assessment (FBA) component, implementation of consultant follow-up with the producer to discuss progress in relation to the plan developed and to offer further advice as needed.	Continued delivery and refinement of the CFBAS FBA follow-up service.
Capturing Opportunities	
Deliverable: Supporting and developing networks relating to scientific advances so as to create new economic opportunities for farmers	
Through cooperation between AAFC and the provinces and territories, development of industry partnerships and feasibility studies to realize commercial opportunities arising from advances in science.	Continued exploration of potential opportunities for new programming in this area.
Deliverable: Promoting research to increase the transfer of technology resulting from advances in science and innovation	
Carrying out of studies on technology transfer, market information, and regulatory constraints.	Continued exploration of potential opportunities for new programming in this area.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Improving the dissemination of information relating to science and innovation	
Support for CFBMC's website (farmcentre.com), which includes a science and innovation section and weekly articles related to capturing opportunities from science and innovation.	Continued exploration of potential opportunities for new programming in this area.
Deliverable: Establishing or further developing programs, such as CFBAS's specialized services or PAVE, to foster new economic opportunities through to commercial feasibility	
Implementation of CFBAS Specialized Business Planning Services (SBPS) to support diversification business planning and PAVE to support value-added business planning.	Promotion and refinement of SBPS and PAVE to improve uptake by farmers.
Support for province-specific initiatives: • Alberta: feasibility assessment; • Ontario: management information; • Quebec: regional strategies.	Continued exploration of potential opportunities for new programming in this area.
Skills and Development	
Deliverable: Promoting learning opportunities in business management, environmental management, food safety, and food quality (CFBMC website: skills assessment tools)	
Enhancement of the CFBMC website with information on learning opportunities and farm business establishment (for beginning farmers). Access through CASS to skills assessment provided by career development professionals. Support of province-specific initiatives to develop risk-management skills in Alberta, Manitoba, and Ontario	Further development of the CFBMC skills and training web page, with links to courses, workshops, and other learning opportunities.
Deliverable: Providing access to training and support programs for farmers who, in their pursuit of off-farm options, choose to further develop and apply their skills to other career-related activities (AEP)	
Implementation of CASS (initially proposed to be called the Agricultural Enterprise Program, AEP). Delivered by the provinces and Service Canada, this program provides access to training for:	Continued delivery and refinement of CASS.

ACHIEVEMENTS	WORK PLANNED
• farm and off-farm opportunities; • business management; • APF priority areas.	
Development and implementation of feedback surveys (on client satisfaction and value for money).	Survey of client impact 2007.
	Renewal Survey 2007.
Development of an evaluation strategy.	Interim evaluation 2007.
Deliverable: Establishing a joint public and private process to develop a consensus on the type of skills that are needed for future development of the agriculture sector, where such a process does not already exist (advice to HRDC on sector council)	
Ex-officio support to HRSDC initiative to develop a sector council. On November 18, 2005, representatives from agriculture across the various regions and commodity interests in Canada voted unanimously to create an Agriculture Human Resources Sector Council.	Continued work with industry associations, CFBMC, and HRSDC to develop a sector council.
Support for completion of five studies on skills and learning by the Association of Canadian Community Colleges (ACCC).	Assistance by the CFBMC in developing a national consensus on the types of skills needed by farmers for the future development of the agri-food sector.
Development and implementation of the 2004 National Renewal Survey on management and learning practices.	Development and implementation of the 2007 National Renewal Survey on management and learning practices.
Production of a report on identification of skills.	
Access to Capital	
Deliverable: Improving access to, and awareness of, services that assist farmers in securing financing for farms and other agri-business ventures (CFBAS, PAVE)	
Implementation of CFBAS (SBPS) and PAVE business planning assistance to facilitate access to capital, with enhanced follow-up services for beginning farmers.	Refinement and promotion of CFBAS (SBPS) and PAVE in order to increase uptake by farmers.
Completion of a baseline study on access to capital.	
Input into the review of Farm Improvement and Marketing Co-operatives Loan Act (FIMCLA) program to cover the possibility of providing loan guarantees to beginning farmers.	Continued input into the review of this program.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Encouraging private investors to engage in farm and other agri-business opportunities	
Cooperation with the provinces and territories in their work to develop and disseminate information on investment opportunities in the agriculture sector.	Continued cooperation in this area.

Science and Innovation

Departmental Priority: To equip the sector with new bioproducts, knowledge-based production systems, and strategies to capture opportunities and manage change

ACHIEVEMENTS	WORK PLANNED
Deliverable: Policy regulations and processes to create an innovative climate for various stakeholders	
Implementation of AAFC's Agricultural Policy Framework 2003–2008.	Identification and development of new Science and Innovation projects, particularly in the context of the next generation of agriculture policy, to enhance the innovative capacity of the sector.
Deliverable: Innovation Strategy Program	
AAFC research efforts were aligned with APF priorities and organized under four themes reflecting Environmental Health, Sustainable Production Systems, Bioproducts and Bioprocesses, and Food Safety and Quality. Appointment of a Science Advisory Board to advise the Deputy Minister regarding science issues and directions of strategic interest to agriculture. Completion in Fall 2005 of a comprehensive science and innovation consultation with communities, producers, processors, academics and government departments and agencies and other stakeholders. Following these consultations an AAFC *Science and Innovation Stratgy* was publicly presented by Minister Strahl on May 30, 2006.	This strategy comprises seven strategic outcomes along which the Branch will organize its work. These outcomes are: • Enhancing human health and wellness through food, nutrition and innovative products; • Enhancing the quality of food and the safety of the food system; • Enhancing the security and protection of the food supply; • Enhancing economic benefits for all stakeholders; • Enhancing environmental performance of the Canadian agricultural system; • Enhancing understanding of Canadian bioresources and protecting and conserving their genetic diversity; • Developing new opportunities for agriculture from bioresources. These strategic outcomes will translate into the development and implementation of a Science and Innovation Business Plan.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Training, recruitment, and retention of graduate students, post docs, and other hires	
Attendance of AAFC scientists at scientific conferences (about one per scientist per year). Involvement of several post-doctoral fellows and graduate students in AAFC research.	Training and other formation activities to ensure the quality of the scientific workforce.
Deliverable: Various agreements, Memorandums of Understanding (MOUs), co-locations, co-sponsorships, collaborations, international committees, standards, and the Matching Investment Initiative, aimed at public and private sector organizations, associations, and institutes	
Ongoing work to develop an innovative approach to collaborative research funding mechanisms allowing necessary flexibility and ease in supporting broad-based initiatives requiring integrated multi-disciplinary, multi-jurisdictional, multi-organization research teams.	Rolling out of new partnership strategy, including both collaborative research and commercialization.
Deliverable: Protection of IP (patents, designs, processes, or systems) is intended to benefit Canada's innovative community (such as tech transfer offices)	
Development and implementation of patent agent and patent administration services processes. Five business teams were established to support AAFC's research programs. Establishment of a single team to support the identification, protection, management, and deployment of intellectual property arising from departmental activities, particularly those related to intramural scientific research conducted in support of Canada's agri-food sector.	Evaluation of AAFC's patent portfolio, including 150 technologies, and development of an action plan for each. Training of AAFC's S&T staff to become Commercialization Officers in the newly established office. Staffing of lead positions. Establishment of a commercialization/ partnership strategy.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Publications and reviews (of or in refereed journals, books, chapters, investigative or unpublished reports, proceedings), presentations (conference presentations), symposia (national or international) are intended to share knowledge with the scientific community	
Annual production of several thousand research publications and communications. In 2005–2006: 2381 scientific publications (865 in peer-reviewed scientific journals); 286 new product licences; 1729 oral communications and 795 posters at scientific conferences.	Continued research under four National Science Programs (Environmental Health, Sustainable Production Systems, Bioproducts and Bioprocesses and Food Safety and Quality) in support of the new Science Strategy and forecoming Business Plan. Ongoing transfer of research findings to the scientific community and agriculture and agri-food sector through publications and reviews (in refereed journals, books, chapters, investigative or unpublished reports, proceedings), conference presentations, national and international symposia, and technology transfer products.

Business Risk Management

Departmental Priority: To enhance producers' capacity to manage risk and to increase the sector's viability and profitability

ACHIEVEMENTS	WORK PLANNED
Deliverable: Improve the tools available to producers for the purpose of managing business at risk	
Replacement of previous BRM programs with a new margin-based program in 2003 – the Canadian Agricultural Income Stabilization (CAIS) Program – to provide producers with income stabilization and disaster coverage.	Continued work to transform CAIS to improve the BRM programming for producers, in part by separating the income stabilization and disaster components.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Redesigned NISA: *• CAIS: Income stabilization with ongoing and predictable disaster program* *• CAIS: Streamlined application process for farmers* *• Linkages between CAIS and Production Insurance*	
Development and implementation of CAIS, which replaces NISA (income stabilization) and CFIP (disaster protection).	Work by FPT officials with industry on options for transforming CAIS, and on new, separate disaster programming.
Work with provinces and industry to develop options for the FPT ministers to consider at the annual conference in June. Implementation of changes for the 2007 program year.	Delivery of measures to fulfill Budget 2006 commitments (i.e., inventory valuation and enhanced negative margin coverage) related to effectiveness of current programming. Following agreement by Ministers in June 2006, finalization by FPT officials new program design, with a view to implementation for the 2007 program year. Seeking of Cabinet authority for redesigned income stabilization programming and new disaster programming to provide immediate response to disaster situations.
Implementation of the Production Insurance Premium Adjustment under CAIS to compensate producers who receive less assistance as a result of being in both programs. Inputting of deemed Production Insurancec (PI) benefits into negative margins to ensure CAIS is not covering losses insurable under PI.	
Deliverable: Production Insurance *• Expanded Coverage* *• Broader range of program choices*	
Expansion of Production Insurance coverage, with more commodities covered, a broader range of program choices, and improved efficiency of program delivery.	Further analysis to quantify major economic losses and to define Production Insurance protection related to diseases in the swine and poultry sectors.
Deliverable: Private Sector Risk Management Partnership *• Business Interruption Insurance* *• Funds community or farm groups to develop business case for specific line of insurance by potential insurers*	
Development and implementation of the Private Sector Risk Management Partnerships (PSRMP) program, which provides financial and technical assistance to commodity or farm groups to develop a business case to secure new, private sector financial risk management tools.	Continued monitoring of progress on existing projects. Maximization of program and project efficiencies by harmonizing activities under existing projects. Identification of new strategic alliances between projects, producer organizations, and representatives of the domestic and

ACHIEVEMENTS	WORK PLANNED
	international financial services industry for the design, development, and implementation of new risk management tools. Development of options for continuing the program beyond March 2008.
Deliverable: Redesigned Cash Advances	
Delay in the merging of the Advanced Payments Program (APP) and Spring Credit Advance Program (SCAP) due to hold-ups in legislative changes to the *Agriculture Marketing Programs Act* (*see* under Deliverable: Realign SCAP and AMPA with APF objective, below). Ministerial announcement on May 18, 2006, of the new Enhanced Spring Credit Advance Program (ESCAP), to bridge toward the implementation of Bill C-15. Authorization of funding on May 26, 2006. Program implementation is currently under way. Implementation of the APP/SCAP On-line Program Delivery System for SCAP 2006 on March 1, 2006.	Completion of ESCAP implementation, with delivery mechanisms to producers in place. Modification of Agricultural Marketing Programs Regulations based on new AMPA. Implementation of a new Advance Payment Program (APP) as per the new AMPA. Adaptation of APP/SCAP On-line Program Delivery System modules to ESCAP and the new APP.
Deliverable: Investments program	
Preclusion by priority CAIS items.	No work planned.
Deliverable: Redesigned FIMCLA program	
Completion of an evaluation of the *Farm Improvement and Marketing Co-operatives Loans Act* (FIMCLA) in October 2004, followed by suspension and then cancellation of the program. Subsequent extension of the program to March 2006 in response to stakeholder concern, reinstatement of FIMCLA in March 2006 and proposed extension to March 2007. Continuing consultation with the lending community and other stakeholders to ascertain the capital needs of beginning farmers, inter-generational farm transfers, and agricultural co-operatives.	Further consultations and analysis to develop options that address gaps in debt access.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Realign SCAP and AMPA with APF objectives	
Legislative changes to the *Agriculture Marketing Programs Act* (AMPA) to enable merging of the Advanced Payments Program (APP) and Spring Credit Advance Program (SCAP) were announced in Parliament in October 2005, but subsequent dissolution of Parliament ended the process. These changes were retabled in the House of Commons in May 2006.	Parliamentary approval and implementation of legislative changes to AMPA.
Deliverable: Information sessions and information packages on new BRM programs and services	
Delivery of a comprehensive communications program to support CAIS, with direct mail, paid public notices, and information sessions. Between July 2003 and March 2005 over 400 information sessions reached over 28,000 producers.	Information sessions in Spring 2007 subject to the details of new programming.
Deliverable: Signed MOUs/ contracts/ agreements with partners and co-deliverers	
Ongoing work to review the need to negotiate new agreements effective after expiry of the current APF in March 2008.	Negotiation and implementation of MOUs and Implementation Agreements (IAs) following agreement on the next generation of agriculture policy.
Deliverable: Assessment of programs under BRM priority	
Ongoing work focussing on a "transformative" agenda, with review of policies and programs in the BRM context.	Ongoing review and improvements to current programs, and incorporation of lessons learned in the development of new programs for next generation of agriculture policy.
Deliverable: Assessments of the impacts of emergencies to ensure consideration of the sector with respect to emergency management	
Delivery, with CFIA and Ontario, of the Plum Pox Virus Eradication Program. Assistance to CFIA with estimating compensation rates and maximums under the *Health of Animals Act*, with special reference to the avian influenza outbreaks in BC. Development and delivery, with the provinces, of the BSE Recovery, Fed Cattle Set-Aside and Feeder Calf Set-Aside programs.	**Biosecurity** Monitoring of progress in the pilot projects and review of their potential to be developed into a poultry program under the National On-Farm Biosecurity Initiative. **BSE Measures** Monitoring of the federally inspected slaughter capacity and restructuring of the processing sector.

ACHIEVEMENTS	WORK PLANNED
Contribution to the Public Safety and Emergency Preparedness Canada review of mitigation actions and Disaster Financial Assistance arrangements.	Further investment in traceability infrastructure to ensure that the cattle industry has the necessary equipment to fully participate in a cattle tracking and tracing system initiative.
Delivery of On-Farm Biosecurity pilot program targeted at the poultry industry, which is being delivered by the BC, Ontario, and Quebec ACAAF Councils.	Assistance in piloting traceability systems projects that further the development of full system ruminant traceability.
	Enhancement of the system used for electronic identification of individual animals and tracking of their movements along the food chain in real time (Cattle ID Agency Database).
	Assistance of the beef and cattle industry in implementing proposed requirement to dispose of specified risk material.
	Evaluation of the effectiveness of AAFC's overall response to the BSE crisis.
	Deliverable: Reports from annual reviews of policies and programs. • *Analysis of gaps in BRM tool sets and individual programs* • *Recommendations to Minister in order to continuously improve BRM policy and programs* • *Recommendations to redesign policy and programs, in consultation with stakeholders (provinces, industry)*
Ongoing analysis in response to concerns of ministers and producer organizations.	Performance Indicator reporting on BRM, CAIS, and Production Insurance as specified in the APF agreements.
Ministers have agreed at the June 2006 annual meeting to create a new, more responsive catastrophic disaster assistance program that is separate from income stabilization programming. Steps will be taken to implement a new margin-based system building on proven elements of existing BRM programming.	Officials from both levels of government are tasked with developing a framework for this new approach.
Continuing consultation with stakeholders (e.g., National CAIS Committee, National Safety Net Advisory Committee, BRM Advisory Committee, BRM Working Group, etc.) regarding redesign of policies and programs.	Continuing consultations on a regular basis.

ACHIEVEMENTS	WORK PLANNED
Deliverable: FIPA legislation updated	
Changes to FIPA were not proposed given the anticipated transformation of CAIS.	No further work planned as no changes are anticipated.

Markets and International Trade

Departmental Priority: To expand international opportunities for the Canadian agri-food sector

ACHIEVEMENTS	WORK PLANNED
Gaining recognition and building markets	
Deliverable: Branding campaign	
Endorsement of the national Brand Promise by key industry leaders and federal and provincial agriculture ministers.	Outreach to inform and engage industry in the Brand Canada initiative, and ensure that all parts of AAFC and posts abroad are implementing the strategy.
Completion of branding visuals (logos, colour schemes for branding materials) and messaging for the public.	Further development of tools to assist industry and government to brand Canada.
Completion of branding research for key agricultural markets.	Completion of the branding guide and website; launching of an outreach campaign to make these tools available to industry.
Creation of International Branding Working Group as a vehicle for industry–government cooperation.	Additional buyer and consumer research studies in key markets.
Deliverable: Canada's reputation benchmarked	
Completion of benchmarking of Canada's reputation through consumer and buyer surveys in Japan, Mexico, US, UK, and Germany; benchmarking with consumers in Singapore and Korea.	No further work planned.
Deliverable: Strong industry/government partnerships through value-chain roundtables	
Establishment of industry led value-chain round tables (VCRTs), which include the Canadian Food Inspection Agency, for the beef, pork, oilseeds, cereal grains, special crops, horticulture, and seafood sectors.	Strengthening of strategic alliances with industry through VCRTs, and investment and trade promotion activities. Continued work with industry and the provinces/territories to implement the branding strategy.

ACHIEVEMENTS	WORK PLANNED
Support by the Oilseeds Round Table and Functional Foods Working Group for a pathfinding project by Soyfoods Canada for health claims linking soyfoods and cardiovascular disease. Report prepared for the Horticulture Value Chain Roundtable recommending measures by which Health Canada and AAFC can help Canadian farmers gain access to pesticides currently available only in other countries.	Work with value-chain roundtables to better understand the competitive position and to build strategies for market success. Support for sector-specific branding initiatives.
Deliverable: Partnerships with national and international development agencies in key emerging markets to gain recognition of Brand Canada	
Recognition of Brand Canada in emerging markets has been achieved through trade and investment promotion missions to other countries, and exporter training and trade shows. Partnerships with development agencies for this purpose have never been pursued.	No work planned.
Deliverable: Increase foreign market Services to Canadian industry, including: • *Trade and investment promotion, missions to other countries* • *Technical marketing assistance (e.g. Canadian International Grains Institute, CIGI; Canadian Malting Barley Technical Center, CMBTC; Virtual Centers, VCEN)* • *Export counselling, workshops, seminars, and training*	
Establishment of investment partnerships between foreign and Canadian companies in the traditional agri-food and bioproducts sectors. Participation in key Canadian and international trade shows, including: • Foodex; • Taipei International Food Show; • Food and Hotel Asia; • Alimentaria - Mexico; • SIAL Paris; • Anuga Germany; • PLMA - Chicago; • SIAL - Montreal. Successful completion of missions to other countries, including: • 2004 mission to Japan, Korea, and US (BSE related);	Implementation of a comprehensive approach for identifying investment and partnership targets in countries that are primary sources of investment; engagement with key posts (AAFC representatives working out of Canadian embassies abroad, such as trade commissioners) to develop tailored workplans for investment opportunities. Provide technical marketing assistance to industry sectors. Continue with trade promotion program involving network of agriculture and food specialist in our posts abroad to promote Canada and Canadian products. Focus on emerging markets, such as India and China, through research, analysis, and promotional activities.

ACHIEVEMENTS	WORK PLANNED
• 2004 mission to Japan and Korea; • 2005 mission to Japan and Korea; • 2005, mission to China; • 2005 missions to North Africa, Venezuela, and Mexico (BSE related); • 2006 mission to Tokyo. Signing of Memorandum of Understanding (MOU) in science and technology cooperation with science organizations in countries, such as China, Brazil, Israel, Russia, and Chile. Market development promotional activities reflecting Brand Canada guidelines, including: • Canada "Excellence at you Table" recipe books, • new look for the Canada pavilion, • in-store retail promotional material. Establishment of continued funding for the CMBTC that matches growing membership and support for expanded work. Active in the Agri-business Working Group of the Canada Mexico Partnership. Delivery of presentations at international forum in Chile to support Canadian agriculture biotechnology industry. Completion of two national projects, a review and evaluation of existing exporter services to identify gaps and best practices and a benchmark study to assess client preparedness levels, information needs, and knowledge of existing exporter services. Development of an Integrated Country Engagement Strategy template. Identification of regional conduit officers to facilitate Virtual Trade Commissioner export counselling services to clients. Targeted seminars and counselling to address identified gaps.	Continued work with Canadian exporters to provide trade and export services, including Agri-Food Service (ATS) website, seminars, workshops, and ATS bulletins. Development of India, EU, and US Integrated Engagement Strategies, including comprehensive country assessment. Minister-led mission to Mexico in fall 2006 and Deputy Minister missions to Western Europe and/or South Africa.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Integrated legislative and policy framework	
AAFC is continually working to ensure internal department frameworks are integrated with the APF and advocates for applicable federal government frameworks to integrate with the APF.	Continued work to ensure that internal department frameworks are integrated with the APF and to advocate for applicable federal government frameworks to integrate with the APF and the next generation of agriculture policy.
Deliverable: Market research reports, trade data/database, country profiles, market overview, studies on investment opportunities and issues for the industry	
Benchmarking of gap analysis against US export performance for all countries in all countries except for Asian countries. Production of economic analysis report, including competitors reports, export gap analyses, notes on the impact of currency values on trade, and food supply and demand analysis in foreign markets. Completion of Country Profiles and numerous reports on health and wellness and packaged food products for market development teams and the Agri-Food Trade Service (ATS) website. Management of the selection and acquisition process for trade data and market research bases (Euromonitor, Global Trade Atlas), including the development and implementation of an ongoing training plan for all staff, in collaboration with the Canadian Agricultural Library. Surveys, data acquisition, and networking to inform the Markets and Trade Team and VCRTs about Canadian and US consumers, leading to market opportunities.	Continued work on country profiles and research reports as opportunities arise. Continued management and internal promotion of trade databases.
Contributions program under international program	
Implementation of the Canadian Agriculture and Food International (CAFI) program, providing funding assistance to the agriculture, agri-food, and seafood industries' efforts to increase their awareness of global market demands and opportunities:	Continued funding of approved long term strategies and short term projects. Promotion of Brand Canada in target markets.

ACHIEVEMENTS	WORK PLANNED
Funding assistance to 60+ associations and companies in 2003–2004, 55+ in 2004–2005, and about 50 in 2005–Feb 2006. CAFI program achievements include: improved market access for commodities such as breeding cattle, canola, Canadian ice wine; promotion of an epoxy-free can for canning salmon; and raised awareness of Canada's fur-farming practices.	Engagement of industry in developing strategies to respond to market demands. Integration of sectoral capability to meet demands for food safety, food quality, and environmental responsibility. Continued funding of projects that encourage the establishment of higher standards of sustainable agriculture, particularly among new generation farmers. Promotion of cultivation and production methods, standards, and practices that adhere to "sustainability code." Continued funding of strategies that encourage lower pesticide use, zero tillage, lower fuel consumption, and less soil erosion.
Improving market access	
Deliverable: Strong network in place to support international advocacy activities domestically and internationally	
Launching of a trade advocacy program, intended to protect and improve market access and reduce impediments to trade. Progress on negotiations to achieve elimination of export subsidies and substantially reduce trade-distorting domestic support.	Greater Canadian trade advocacy efforts abroad. Continuation of the trade promotion program involving the network of agriculture and food specialists in posts abroad to promote Canada and Canadian products.
Deliverable: Canada–Chile Free Trade Agreement, Canada–Costa Rica Free Trade Agreement, and WTO CoA implemented	
Canada implemented its commitments under the Canada–Chile FTA, the Canada-Costa Rica FTA, and the WTO Agreement on Agriculture.	Canada's commitments under the Canada–Chile FTA, the Canada–Costa Rica FTA, and the WTO Agreement on Agriculture will require ongoing monitoring and implementation. Canada will continue to pursue its multilateral, and other regional and bilateral, trade negotiation initiatives.
Deliverable: Communications to stakeholders to raise awareness of negotiating process	
AAFC undertook regular consultations with provinces and industry stakeholders concerning Canada's objectives in respect of participation in the WTO negotiations, and regional and bilateral trade negotiations.	Continued consultation with provincial and industry stakeholders in support of efforts to advance Canada's objectives effectively in multilateral, regional, and bilateral trade negotiations.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Other countries' position analyzed and potential allies identified	
Canada continuously works with different countries on specific issues raised in the international market; however, there is no analysis of formal identification of allies.	Continued work with different countries on specific issues raised in the international market.
Deliverable: MOU with DFAIT to deploy additional in-market trade and technical specialists to other countries	
MOU in place with the Department of Foreign Affairs and International Trade (DFAIT) regarding agriculture specialists in Canadian postings abroad.	Stronger advocacy efforts in the US through the Enhanced Representation Initiative.
General trade negotiations	
Advancement of Canada's position in the WTO agriculture negotiations, including through participation at the 6th WTO Ministerial Conference in December 2005.	Tighter integration of international/domestic policy work.
Significant progress with US trade policy in the areas of bioterrorism, country of origin labelling (COOL), and BSE.	Establishment of a web presence targeted to a foreign audience contemplating purchasing and consuming Canadian Beef and Cattle products.
Continued management of current and emerging issues, including the 2007 *US Farm Bill* and avian influenza. Continued post-BSE recovery planning to intensify efforts, in cooperation with industry, to develop new markets for cattle, beef, and other ruminant products.	Continued to work toward concluding the Doha Round of WTO negotiations, in order to achieve elimination of export subsidies, substantial reduction of trade-distorting domestic support, and significant market access improvements.
Monitoring of market access conditions to identify and address potential irritants before they lead to restrictions on trade.	On the regional/bilateral front, Canada will continue to pursue and seek conclusion of FTA negotiations with Korea, the Central American Four, Singapore, and the four countries of European Free trade Area. AAFC and other government departments will evaluate potential additional FTA negotiation opportunities with trading partners.
Canada advanced its objectives in the WTO agriculture negotiations, including through participation at the 6th WTO Ministerial Conference in December 2005.	Establishment of a web presence targeted to a foreign audience contemplating purchasing and consuming Canadian Beef and Cattle products.
Canada initiated bilateral FTA negotiations with Korea.	Tighter integration of international/domestic policy work.
Canada achieved advancement of FTA negotiations with the Central American Four Countries (El Salvador, Guatemala, Honduras, and Nicaragua), Singapore, and the four countries of the European Free Trade Association.	

ACHIEVEMENTS	WORK PLANNED
Overcoming technical barriers	
Deliverable: Favourable rulings on legal actions taken against Canada	
Significant contribution to the preparation of Canada's submissions to WTO panels on the issues of genetically modified organisms (GMOs) and geographical indications, which supported the interests of the Canadian Agriculture and Food Sector.	Continued challenge of technical trade barriers through the dispute settlement process of the WTO. Special emphasis on tackling bilateral trade barriers.
Deliverable: Agreements between countries to eliminate/reduce market barriers and reduce foreign agricultural tariff reductions	
Negotiation of an agreement with countries that export living modified organisms (LMOs) to identify the documentation of commodity shipments. Based on that agreement, the signing and extension of a trilateral arrangement between Canada, the US, and Mexico to govern trade in GMO commodities. Contribution to and influence of the development of international technical standards and policies in several WTO committees and international standard-setting organizations.	Continued activity to influence international technical standards and policies in support of the interests of Canada's agriculture and agri-food sector, such as geographic indicators, biosafety protocol, and access to and benefit sharing of genetic resources.
Deliverable: Improved market access protocol (MAP) negotiating capacity	
Negotiations with North American countries as indicated in the above deliverable.	Negotiations of MAP with priority countries to ensure that continued exports of bulk commodities are not compromised by implementation of the bio-safety protocol.
Deliverable: Trade and policy advice on technical trade issues in response to emerging international trends and the APF direction	
Provision of trade policy advice to support the development of domestic agriculture and food policies.	Continued work with industry and government partners on emerging issues such as labelling of genetically engineered products, maximum residue limits, product attributes, animal welfare, and access and benefits sharing.

ACHIEVEMENTS	WORK PLANNED
Deliverable: Early warning system for emerging technical trade issues to be disseminated to domestic stakeholders	
Close cooperation with posts and other departments to identify trade barriers and use of the value-chain round tables to disseminate information to domestic stakeholders.	Work toward the development of a more formal system to identify and warn of potential trade irritants. Work with Pulse Canada to make special-crops growers more aware of changes to regulations on maximum residue limits for pesticides in food products in key export markets (e.g., EU and Japan).
Deliverable: Articulated Canadian position in multi-lateral technical fora	
Voicing of Canada's positions in international fora under the aegis of the World Trade Organization (WTO), United Nations (UN) Convention on Biological Diversity (CBD) Biosafety Protocol (BSP), and the Codex Alimentarius Commission (Codex).	Putting forward of well developed and articulated positions in international fora.
Enhancing international development	
Deliverable: International technical assistance projects advanced, e.g., PFRA/CIDA projects in Egypt, Ethiopia, and China	
Doubling in size of the CIDA-funded Canada–China Agriculture Development Program to include two projects: Small Farmers Adapting to Global Markets, Sustainable Agriculture Development. Support of cooperative agriculture project with CIDA in Egypt, Ethiopia, and Ukraine. Facilitation and management technical cooperation on agricultural projects in Cuba, Chile, and South Africa.	Focus on broader government development priorities, as outlined in the International Policy Statement. Targeted technical assistance. China–Canada Agriculture Development Project: integration of the Sustainable Agriculture Program with the Small Farmers Adapting to Global Markets Project. Provision of Canadian agriculture development expertise to work on solutions to agricultural problems that cross national boundaries, such as desertification and food-borne diseases. Continued cooperation with developing countries on issues of shared concern through such organizations as the Food and Agriculture Organization (FAO) and the Inter-American Institute for Cooperation on Agriculture (IICA).

ACHIEVEMENTS	WORK PLANNED
Deliverable: New assistance projects developed, approved, and ready for implementation	
In partnership with CIDA, implementation of the International Agriculture Capacity Building Activities project has been completed. Three capacity-building training modules in BRM, FSQ, and Agri-Environmental Policy have been developed under the project.	Ongoing consultations with CIDA to secure funding for the implementation of the recently developed Capacity Building Training Modules in selected countries in Africa, Europe, Asia, and Latin America. Ongoing consultations with the FAO, International Fund for Agriculture Development (IFAD), World Bank, Asian Development Bank, and the African Development Bank to secure funding for capacity building projects in Vietnam, South Africa, Ukraine, Algeria, and Egypt.
Deliverable: International development strategy	
Approval and implementation of International Development Strategy.	Continued implementation and management of the International Development Strategy.
Deliverable: Potential market opportunities identified	
Completion of needs assessments in AAFC's priority developing countries. MOUs in preparation.	Follow-up to needs assessment missions in priority developing countries. Securing of additional funding for new assistance projects that will deliver technical assistance similar to other projects listed above.

Annex C: Progress on SDS III Commitments on Greening AAFC's Operations

In its third SDS, AAFC stated that it would carry out sustainable initiatives in seven key areas per the framework laid out in the Sustainable Development Government Operations:

- **Emergency Preparedness and Response;**
- **Land Management;**
- **Building Energy Management;**
- **Fleet Management;**
- **Waste Management;**
- **Water and Wastewater Management; and**
- **Procurement.**

Much progress has been made against these commitments but some were very ambitious and are not yet completed. In some cases, implementation of initiatives was postponed due to a refocussing of objectives. For instance, SDS III includes a commitment to develop and implement a water conservation program. However, water quality issues that arose during the period of the strategy necessitated a refocussing of effort on the quality of drinking water. Where work is not yet complete, it will continue over the period of SDS IV unless otherwise stated.

The key commitments, their specific targets, and the status of these targets are summarized below[1].

[1] AAFC, 2006. Internal document highlighting SDS Commitments and their status. June 2006

Target Date	SDS Commitment	Status
Procurement		
March 31, 2004	Deliver of green procurement awareness training to the integrated service managers community and all NCR Assets Management/Procurement staff.	Complete.
March 31, 2005	Deliver of green procurement awareness training to all AAFC procurement staff.	Complete.
Building Energy Management: Greenhouse Gas Emissions		
March 31, 2010	Reduce AAFC's emission of greenhouse gases resulting from energy consumption in our buildings to 8.5% below what we expect to be emitting in 2010 based on business as usual practices of 1998.	Significant Progress. As of the 04/05 reporting period, greenhouse gas (GHG) emissions from AAFC building operations were 2% ahead of the target level we aim to achieve in 2010.
Storage Tanks		
March 31, 2005	Have all abandoned tanks assessed, decommissioned, and disposed of in accordance with the applicable federal legislation.	Substantially complete. 20 of 22 tanks identified in SDS III have been decommissioned.
March 31, 2005	Implement environmental emergency response plans and spill reporting procedures at all AAFC facilities with hydrocarbon containing storage tanks.	Partially complete. Spill kits distributed to all sites with Hydrocarbon containing tanks. See below re Emergency response plans.
March 31, 2007	Ensure 100% compliance of all AAFC storage tanks.	Significant Progress. As of April 30, 2006, compliance is greater than 80%. This will increase through ongoing monitoring and tank replacement activities in 2006. The Department will continue to strive for improved compliance during the current fiscal year.
Waste Management		
March 31, 2007	Conduct waste audits at all major AAFC facilities.	Significant progress. 11 out of 19 waste audits completed. A number of lessons have been learned that will improve the quality of the remaining audits.

Target Date	SDS Commitment	Status
March 31, 2007	Based on the outcomes of the audits, develop and implement waste-reduction plans for each identified facility.	Significant progress. 11 out of 19 waste reduction plans implemented.
Fleet Management		
March 31, 2010	Reduce the emission of greenhouse gases resulting from fuel consumption by AAFC's fleet and off-road equipment to 8.5% below what is expected to be emitted in 2010 based on business as usual practices of 1998.	There was a 3.3% reduction in emissions in 2004–2005 compared to the previous year. This downward trend is expected to continue as fleet reductions, right sizing and alternate fuels, anti-idling and driver education programs continue.
Land Management: Contaminated Sites		
March 31, 2008	Complete all applicable phases of environmental site assessment at all AAFC properties with potential for contamination, including determination of the extent of contamination as required.	Significant Progress. Much assessment work has been completed, but we have noted an increase in contaminated site reporting requirements in the last three years and more assessment work than anticipated.
March 31, 2008	Carry out remediation or other treatment of all known Class 1 & 2 contaminated sites, or other known sites warranting risk reduction.	Completed for all sites originally identified. Additional assessment can result in change to risk classification of particular sites.
Environmental Management System		
March 31, 2004	Approve a departmental Environmental Management Policy and Strategic Action Plan for the implementation of EMS.	Completed. Policy approved August 2005. Strategic action plan for EMS implementation developed and approved in 2006.
March 31, 2005	Specific for the management of its assets, have a fully populated Environmental Information and Performance Management System (EIPMS) database for monitoring and reporting on AAFC's our environmental performance.	Substantially complete. System developed and populated for originally identified modules. An internal review of the system was conducted in 2006 to assess the continuing validity of the original objectives and prioritize changes and additional modules requested by users. Future modifications and expansion to include additional modules will be based on the objectives and priorities identified in this review.

Target Date	SDS Commitment	Status
March 31, 2005	Have an EMS that meets the requirements of the ISO 14001 standard.	Partially complete. Required elements have been identified, based on an internal audit recommendation, and an action plan approved. Several elements have been completed per the plan. Departmental EMS will include all elements of the ISO standard, but the Department is not planning to apply for certification.
Emergency Preparedness and Response		
March 31, 2005	Implement environmental emergency response plans and develop incident, release, and spill reporting procedures for all AAFC facilities.	Partially complete. Guidelines sent to all locations. Environmental Emergency Response plans not yet implemented. A Working group has been formed to develop consolidated site emergency response plans that would deal with all types of emergencies (health and safety, security, environment). The model plan to be developed in winter 2006–2007 will be piloted and then distributed and implemented.
Halocarbons		
	Annually reduce Ozone Depleting Potential (ODP) and Global Warming Potential (GWP) from 2003 levels.	Partially complete. The primary focus during this period was to ensure the Federal Halocarbon regulations were understood and compliance improved. An accurate inventory of halocarbon-using equipment was not available until 2006 so a baseline could not be established. However a number of activities intended to reduce ODP and GWP were carried out, among them replacement of a number of older units and improvements in storage. Annual reporting will track change based on the data available.
Water and Wastewater Management		
March 31, 2006	Conduct water and wastewater audits at all major AAFC facilities.	Wastewater—Partially complete. Five wastewater audits completed. The quality of audits was inconsistent, which, along with experience gained

Target Date	SDS Commitment	Status
		from the first series of audits, has necessitated the re-examination of contract specifications. Timeline extended. Water Management — Redirection of activity. AAFC has switched focus from water conservation to water quality due a reassessment of risks and the issuance of Health Canada guidelines. Information gained regarding water systems will provide baseline information on AAFC water systems and have an environmental benefit in a decrease of water lost either through leakage and inefficient treatment operations.
March 31, 2007	Based on the outcomes of these audits, develop and implement water and wastewater reduction plans for each major facility audited.	Partially complete / redirection of activity (see above).

Annex D: Consultations

On November 2, 2005, officials from Agriculture and Agri-Food Canada (AAFC) led a one-day stakeholder consultation workshop on the development of the Department's fourth sustainable development strategy. As part of this workshop, meetings were held with representatives from a variety of national agriculture organizations, commodity groups, academia, and other federal departments (*see* list below).

The purpose of the consultation was to solicit input from stakeholders on key elements of the Department's plan for SDS IV, particularly opportunities to strengthen linkages among, and to better integrate, the three pillars of sustainable development (economic, environmental, and social development) in and through departmental work. Discussions were particularly directed toward three integrative initiatives: Ecological Goods and Services Policy, Agri-Environmental Valuation, and Social Indicators. Separate stakeholder consultations have also been held on a number of the initiatives outlined in Chapter 4.

Through the consultation workshop, AAFC learned that, although participants generally welcomed the initiative on Ecological Goods and Services Policy, there was debate and concern about who would ultimately cover the cost of its development and implementation. Participants also recommended that the best way to encourage the implementation of agri-environmental initiatives is to deliver benefits to both the environment and consumers. They also cautioned that the value of developing social indicators lies in reporting progress in the sector, rather than "measuring for the sake of measuring."

AAFC's fourth SDS also highlights the ongoing implementation of the APF. However, the APF was not the focus of the consultation workshop, because extensive consultations were conducted when the APF was developed, ongoing collaboration with interested parties has continued during the implementation of the APF, and an official APF review process was under way at the time of writing.

Further to this consultation, various stakeholders were given the opportunity to review and comment on a draft of this strategy.

Organizations represented at the consultations

Canadian Cattlemen's Association
Canadian Co-operative Association
Canadian Farm Business Management Council
Canadian Federation of Agriculture
Crop Life Canada
Environment Canada
Federation of Canadian Municipalities
International Institute for Sustainable Development
McGill University, Department of Agricultural Economics
Policy Research Initiative
University of Saskatchewan, Department of Agricultural Economics

AAFC also consulted members of the Department's Sustainable Development Working Group and other key experts on departmental subject matter throughout the development of the strategy.